

acacgccctt ctctctctct ctctctctct ctctctctct cteccccgtc tnnccctccc
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 981

<210> 4430

<211> 151

<212> PRT

<213> Homo sapiens

<400> 4430

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| Met | Glu | Val | Pro | Arg | Leu | Thr | Cys | Ser | Gln | Pro | Asp | Thr | Thr | Ser | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Arg | Arg | Val | Met | Pro | Ile | Asn | Gly | Thr | Pro | Ile | Gly | Arg | Leu | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ala | Leu | Pro | Gln | Val | Asn | Thr | Arg | Arg | Glu | Ser | Leu | Asn | Arg | Gln |
| | | | 35 | | | | | 40 | | | | | 45 | | |
| Ala | Pro | Gln | Pro | Arg | Arg | Lys | Pro | Ser | Phe | Gln | Thr | Val | Gly | Ile | Pro |
| | | | 50 | | | | | 55 | | | | | 60 | | |
| Phe | Ile | Pro | Trp | His | Arg | Glu | Pro | Lys | Gly | Met | Gln | Thr | Asp | Pro | Gly |
| | | | | | 70 | | | | | 75 | | | | | 80 |
| Arg | Ala | Leu | His | Ser | Gln | Thr | Leu | Ala | Arg | Thr | Arg | Arg | Leu | Gly | Ala |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Pro | Arg | Arg | Ala | Leu | Pro | Pro | Arg | Pro | Pro | Pro | Pro | Ala | Asp | Ser | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Cys | Glu | Leu | Asn | His | Leu | Gly | Ala | Met | Cys | Arg | Gly | Arg | Ala | Ser |
| | | | 115 | | | | | 120 | | | | | 125 | | |
| Ala | Ser | Glu | Val | Leu | Gly | Gly | Pro | Val | Thr | Ala | Ser | Arg | Phe | Tyr | Gly |
| | | | 130 | | | | | 135 | | | | | 140 | | |
| Xaa | Pro | Pro | Pro | Val | Ser | Trp | | | | | | | | | |
| 145 | | | | | | 150 | | | | | | | | | |

<210> 4431

<211> 507

<212> DNA

<213> Homo sapiens

<400> 4431

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 120
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 180
 ccccgggacc ctggccggcc tgcagggtgg tctgtgggag gctccaggcc ctctgtgca
 240
 ggtccaagcg cagccaatcc tcaactcaagg ccttccctgc cctttccttc cgccacaaat
 300
 cccaaacaaa cgtgctgtgg tccctgcccg gtgtccacag tgccagcccc accctcccag
 360

cccgttgccc atccctgcgg ggctgcagcc atccctctcc acagcaagga tgacgtggaa
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 480
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<210> 4432

<211> 57

<212> PRT

<213> Homo sapiens

<400> 4432

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Glu | Phe | Arg | Glu | Ala | Phe | Lys | Glu | Ala | Ser | Lys | Val | Pro | Phe |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Cys | Lys | Phe | His | Leu | Gly | Asp | Arg | Pro | Ile | Pro | Val | Thr | Phe | Lys | Arg |
| | | | 20 | | | | 25 | | | | | | 30 | | |
| Ala | Ile | Ala | Ala | Leu | Ser | Phe | Trp | Gln | Lys | Val | Arg | Leu | Ala | Trp | Gly |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Leu | Cys | Phe | Leu | Ser | Asp | Pro | Ile | Arg | | | | | | | |
| | 50 | | | | | 55 | | | | | | | | | |

<210> 4433

<211> 447

<212> DNA

<213> Homo sapiens

<400> 4433

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 ctccgcttcc tggacatgag ccagaaccag ttccagtacc tgccagacgg cttcctgagg
 180
 aaaatgcctt cctctcccca cctgaacctc caccagaatt gcctgatgac gcttcacatt
 240
 cgggagcacg agcccccccg agcgctcacc gagctggacc tgagccacaa ccagctgtcg
 300
 gagctgcacc tggctccggg gctggccagc tgctgggca gcctgcgctt gttcaacctg
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 agctccaacc agctcctggg cgtccccctt ggctctctcg ccaatgctag gaacatcact
 420
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 447

<210> 4434

<211> 149

<212> PRT

<213> Homo sapiens

<400> 4434

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Tyr | Asn | Thr | Ser | Ser | Pro | Arg | Glu | Met | Val | Ala | Gln | Phe | Leu | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Asp | Gly | Asn | Val | Thr | Asn | Ile | Thr | Thr | Val | Ser | Leu | Trp | Glu | Glu |

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<210> 4435
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<212> DNA
<213> Homo sapiens
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<210> 4436

<211> 261

<212> PRT

<213> Homo sapiens

<400> 4436

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Gln Gly Leu Glu His Pro Phe Val Val Asn Leu Trp Tyr Ser Phe Gln
          20           25           30
Asp Glu Glu Asp Met Phe Met Val Val Asp Leu Leu Leu Gly Gly Asp
          35           40           45
Leu Arg Tyr His Leu Gln Gln Asn Val His Phe Thr Glu Gly Thr Val
          50           55           60
Lys Leu Tyr Ile Cys Glu Leu Ala Leu Ala Leu Glu Tyr Leu Gln Arg
65           70           75           80
Tyr His Ile Ile His Arg Asp Ile Lys Pro Asp Asn Ile Leu Leu Asp
          85           90           95
Glu His Gly His Val His Ile Thr Asp Phe Asn Ile Ala Thr Val Val
          100          105          110
Lys Gly Ala Glu Arg Ala Ser Ser Met Ala Gly Thr Lys Pro Tyr Met
          115          120          125
Ala Pro Glu Val Phe Gln Val Tyr Met Asp Arg Gly Pro Gly Tyr Ser
          130          135          140
Tyr Pro Val Asp Trp Trp Ser Leu Gly Ile Thr Ala Tyr Glu Leu Leu
145          150          155          160
Arg Gly Trp Arg Pro Tyr Glu Ile His Ser Val Thr Pro Ile Asp Glu
          165          170          175
Ile Leu Asn Met Phe Lys Val Glu Arg Val His Tyr Ser Ser Thr Trp
          180          185          190
Cys Lys Gly Met Val Ala Leu Leu Arg Lys Leu Leu Thr Lys Asp Pro
          195          200          205
Glu Ser Arg Val Ser Ser Leu His Asp Ile Gln Ser Val Pro Tyr Leu
          210          215          220
Ala Asp Met Asn Trp Asp Ala Val Phe Lys Lys Ala Leu Met Pro Gly
225          230          235          240
Phe Val Pro Asn Lys Gly Arg Leu Asn Cys Asp Pro Thr Phe Glu Leu
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Glu Glu Met Ile Leu
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<210> 4437

<211> 620

<212> DNA

<213> Homo sapiens

<400> 4437

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120
gtgtccatgc tgaagatgga cgagagcacg ctgctgcggg aggccagga gctcagcctg
180
gagaagctgc agcaggccgt gaggcagaac gggctcatgt cggggctgat gcagatgctg
240

```


ctgctgaagg tgtctgcaca catcaccgag cagctgggca tggccccagg tggcgagttc
 300
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 360
 cccatccccg tcaccttcaa gagggccatc gcagcgctct ccttctggca gaaggtcagg
 420
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 480
 aagcagaagg acctactgga gcagatgatg gccgagatga ttggcgagtt cccagacctg
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 620

<210> 4438

<211> 206

<212> PRT

<213> Homo sapiens

<400> 4438

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Cys | Arg | Val | Tyr | Val | Val | Gly | Thr | Ala | His | Phe | Ser | Asp | Asp | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Arg | Asp | Val | Val | Lys | Thr | Ile | Arg | Glu | Val | Gln | Pro | Asp | Val | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Val | Glu | Leu | Cys | Gln | Tyr | Arg | Val | Ser | Met | Leu | Lys | Met | Asp | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ser | Thr | Leu | Leu | Arg | Glu | Ala | Gln | Glu | Leu | Ser | Leu | Glu | Lys | Leu | Gln |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Gln | Ala | Val | Arg | Gln | Asn | Gly | Leu | Met | Ser | Gly | Leu | Met | Gln | Met | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Leu | Leu | Lys | Val | Ser | Ala | His | Ile | Thr | Glu | Gln | Leu | Gly | Met | Ala | Pro |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Gly | Gly | Glu | Phe | Arg | Glu | Ala | Phe | Lys | Glu | Ala | Ser | Lys | Val | Pro | Phe |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Cys | Lys | Phe | His | Leu | Gly | Asp | Arg | Pro | Ile | Pro | Val | Thr | Phe | Lys | Arg |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Ile | Ala | Ala | Leu | Ser | Phe | Trp | Gln | Lys | Val | Arg | Leu | Ala | Trp | Gly |
| | | 130 | | | | | 135 | | | | 140 | | | | |
| Leu | Cys | Phe | Leu | Ser | Asp | Pro | Ile | Ser | Lys | Asp | Asp | Val | Glu | Arg | Cys |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Lys | Gln | Lys | Asp | Leu | Leu | Glu | Gln | Met | Met | Ala | Glu | Met | Ile | Gly | Glu |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Phe | Pro | Asp | Leu | His | Arg | Thr | Ile | Val | Ser | Glu | Arg | Asp | Val | Tyr | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Thr | Tyr | Met | Leu | Arg | Gln | Ala | Ala | Arg | Arg | Leu | Glu | Leu | Pro | | |
| | | 195 | | | | | 200 | | | | | | 205 | | |

<210> 4439

<211> 2121

<212> DNA

<213> Homo sapiens

<400> 4439

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120
tctaaaatta actttttattg ttagagacac atcttttagaa aagtttgtaa atatcaacat
180
ttaccatctt attttttctt ttgagaccaa gcatcacaga ccaaaagcca caaagtttac
240
aataatttat tattgttgca tgacatttgc cagtaaaata aattatagaa actatagagt
300
ctttataaac tattttgtat atcatattca cttcctaattg cttactgcag taactgtatg
360
aaatttaatt agattacgtt ttagcattag tcagaagatt taaaaaatat gtaaaatggt
420
ttcacagtac tttggattta taaaagacct cattatttta acttttgtgc aacctgtttg
480
aaatgtataa aaaacctttt acaaaccaaa aggtggcgta aggttttact gagttgctga
540
agacatctta ctttcttgaa tttctactta acatccatgt ggtgcacttt ttcaggcatt
600
gtaataagtg caaataaata atcaattatt gatttctaaa aatctatacc aatagacaat
660
actcaggctt ggaaatattt tgaacactca gatataaaaa ttcagtaaac aatttatgca
720
tggtattttc tctccctgtc ctccctctcc ctctccctt cccctatcta tttggttaaa
780
aaaaaaaaag ttcaacttcg atttaagtcc tagggcctga caaagtgacc ctggataaat
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960
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1020
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1260
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1560
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1620

cagccagttc cagaacaacc actataccca caaccatacc aaccacaata ccaacaatat
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 1800
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 1920
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<210> 4440

<211> 82

<212> PRT

<213> Homo sapiens

<400> 4440

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Gly | Leu | Thr | Arg | Ser | Asp | Val | Asp | Met | Met | Met | Ala | Trp | Trp |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Leu | Arg | Phe | Ala | Phe | Ile | Asp | Val | Gly | Ile | Phe | Arg | Asn | Ser | Ala | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Leu | Ser | Met | Ile | Gly | Ala | Asp | Ser | Ser | Glu | Glu | Lys | Phe | Leu | Arg |
| | | | 35 | | | | | 40 | | | | | 45 | | |
| Arg | Ile | Gly | Arg | Phe | Gly | Tyr | Gly | Tyr | Gly | Pro | Tyr | Gln | Pro | Val | Pro |
| | | | 50 | | | | | 55 | | | | 60 | | | |
| Glu | Gln | Pro | Leu | Tyr | Pro | Gln | Pro | Tyr | Gln | Pro | Gln | Tyr | Gln | Gln | Tyr |
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| Thr | Phe | | | | | | | | | | | | | | |

<210> 4441

<211> 2055

<212> DNA

<213> Homo sapiens

<400> 4441

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 180
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360
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420
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480
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540
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1920

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 2055

<210> 4442

<211> 517

<212> PRT

<213> Homo sapiens

<400> 4442

| | | | | | | | | | | | | | | | |
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| Met | Gly | Arg | Lys | Ser | Lys | Lys | Trp | Gly | Lys | Lys | Val | Ser | Arg | Tyr | Glu |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | |
| Gly | Lys | Val | Arg | Leu | Lys | Lys | Val | Pro | Ala | Lys | Lys | Leu | Val | Pro | Ala |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Trp | Lys | Glu | Lys | Val | Leu | Trp | Ala | Leu | Leu | Ala | Val | Leu | Leu | Ala | Ser |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Trp | Arg | Leu | Trp | Ala | Ile | Lys | Asp | Phe | Gln | Glu | Cys | Thr | Trp | Gln | Val |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Val | Leu | Asn | Glu | Phe | Lys | Arg | Val | Gly | Glu | Ser | Gly | Val | Ser | Asp | Ser |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Phe | Phe | Glu | Gln | Glu | Pro | Val | Asp | Thr | Val | Ser | Ser | Leu | Phe | His | Met |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Leu | Val | Asp | Ser | Pro | Ile | Asp | Pro | Ser | Glu | Lys | Tyr | Leu | Gly | Phe | Pro |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Tyr | Tyr | Leu | Lys | Ile | Asn | Tyr | Ser | Cys | Glu | Glu | Lys | Pro | Ser | Glu | Asp |
| | 115 | | | | 120 | | | | | | | 125 | | | |
| Leu | Val | Arg | Met | Gly | His | Leu | Thr | Gly | Leu | Lys | Pro | Leu | Val | Leu | Val |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Thr | Phe | Gln | Ser | Pro | Val | Asn | Phe | Tyr | Arg | Trp | Lys | Ile | Glu | Gln | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gln | Ile | Gln | Met | Glu | Ala | Ala | Pro | Phe | Arg | Ser | Lys | Gly | Gly | Pro | Gly |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Gly | Gly | Gly | Arg | Asp | Arg | Asn | Leu | Ala | Gly | Met | Asn | Ile | Asn | Gly | Phe |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Leu | Lys | Arg | Asp | Arg | Asp | Asn | Asn | Ile | Gln | Phe | Thr | Val | Gly | Glu | Glu |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Leu | Phe | Asn | Leu | Met | Pro | Gln | Tyr | Phe | Val | Gly | Val | Ser | Ser | Arg | Pro |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Leu | Trp | His | Thr | Val | Asp | Gln | Ser | Pro | Val | Leu | Ile | Leu | Gly | Gly | Ile |
| 225 | | | | 230 | | | | | | 235 | | | | | 240 |
| Pro | Asn | Glu | Lys | Tyr | Val | Leu | Met | Thr | Asp | Thr | Ser | Phe | Lys | Asp | Phe |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Ser | Leu | Val | Glu | Val | Asn | Gly | Val | Gly | Gln | Met | Leu | Ser | Ile | Asp | Ser |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Cys | Trp | Val | Gly | Ser | Phe | Tyr | Cys | Pro | His | Ser | Gly | Phe | Thr | Ala | Thr |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Ile | Tyr | Asp | Thr | Ile | Ala | Thr | Glu | Ser | Thr | Leu | Phe | Ile | Arg | Gln | Asn |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Gln | Leu | Val | Tyr | Tyr | Phe | Thr | Gly | Thr | Tyr | Thr | Thr | Leu | Tyr | Glu | Arg |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Asn | Arg | Gly | Ser | Gly | Glu | Cys | Ala | Val | Ala | Gly | Pro | Thr | Pro | Gly | Glu |

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          325          330          335
Gly Thr Leu Val Asn Pro Ser Thr Glu Gly Ser Trp Ile Arg Val Leu
          340          345          350
Ala Ser Glu Cys Ile Lys Lys Leu Cys Pro Val Tyr Phe His Ser Asn
          355          360          365
Gly Ser Glu Tyr Ile Met Ala Leu Thr Thr Gly Lys His Glu Gly Tyr
          370          375          380
Val His Phe Gly Thr Ile Arg Val Thr Thr Cys Ser Ile Ile Trp Ser
385          390          395          400
Glu Tyr Ile Ala Gly Glu Tyr Thr Leu Leu Leu Leu Val Glu Ser Gly
          405          410          415
Tyr Gly Asn Ala Ser Lys Arg Phe Gln Val Val Ser Tyr Asn Thr Ala
          420          425          430
Ser Asp Asp Leu Glu Leu Leu Tyr His Ile Pro Glu Phe Ile Pro Glu
          435          440          445
Ala Arg Gly Leu Glu Phe Leu Met Ile Leu Gly Thr Glu Ser Tyr Thr
          450          455          460
Ser Thr Ala Met Ala Pro Lys Gly Ile Phe Cys Asn Pro Tyr Asn Asn
465          470          475          480
Leu Ile Phe Ile Trp Gly Asn Phe Leu Leu Gln Arg Ser Gly Thr Ser
          485          490          495
Trp Arg Ala Ala Thr Gly Ser Thr Ser Cys Ser Leu Pro Arg Ala Gly
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Arg Cys Thr Ser Ala
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<210> 4443

<211> 692

<212> DNA

<213> Homo sapiens

<400> 4443

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120
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180
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240
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420
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540
ccctgcagac tgctctgaag agaaggaggg accttctgca gagactccgg gaacaacacc
600
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660

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692

<210> 4444

<211> 108

<212> PRT

<213> Homo sapiens

<400> 4444

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Val | Cys | Leu | Leu | Val | Gly | Leu | Thr | Asn | Ser | Ser | Thr | Trp | Ser |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Leu | Met | Pro | Asn | Gln | Val | Gln | Thr | Thr | Leu | Leu | Phe | Cys | Val | Thr | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Cys | Glu | Ala | Ser | Cys | Lys | Leu | Asp | Ser | Leu | Pro | Ser | Ala | Pro | Ser | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Lys | Ala | Gly | Leu | Gln | Glu | Val | Arg | Pro | Ala | Leu | Gln | Ala | Thr | Pro | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Gly | Leu | Leu | Leu | Ser | Ser | Phe | Leu | Arg | Val | Thr | Glu | Pro | Gly | |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Arg | Glu | Val | Gly | Cys | Gly | Leu | Pro | Cys | Pro | Tyr | Ser | His | Leu | Leu | Gln |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Pro | Pro | Cys | Trp | Thr | His | Gln | Gln | Gln | Ser | Lys | | | | |
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<210> 4445

<211> 901

<212> DNA

<213> Homo sapiens

<400> 4445

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actcagctgt cccagaggat gccagaccc tcattcttat ccaggaccta ggagccctac
180
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240
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300
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360
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480
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540
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600
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660
cacttttggg ctaatctgac ttcaaccccc acttacttgg tctctccttt tacaaccaac
720

atggcaaaac cccatctcca caaaaattgg ataatttgat aattatcatt attggggttc
 780
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 840
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 a
 901

<210> 4446
 <211> 140
 <212> PRT
 <213> Homo sapiens

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 20 25 30
 Pro Gln Glu Cys Pro Asp Pro His Ser Tyr Pro Gly Pro Arg Ser Pro
 35 40 45
 Thr Pro Gly Leu Pro Ser Ser Ala Val Asn Asp Asp Leu Leu Leu Leu
 50 55 60
 Pro Ser Ser Leu Pro Ser Val Thr Lys Gly Leu Pro Arg Cys Gln Leu
 65 70 75 80
 Trp Asn Glu Gly Cys Pro Trp Glu Val Met Ile Leu Arg Tyr Thr Gly
 85 90 95
 Ala Gln Gln Ile Ala Ser Ser Tyr Pro Gln Thr Val Phe Ala Cys Met
 100 105 110
 Gln Pro Leu Ala Leu Pro Leu Cys Gly Arg Lys Pro Ala Gln Gly His
 115 120 125
 Thr Ala Gly Gln Gln Gln His Ser Trp Ser Gln Ile
 130 135 140

<210> 4447
 <211> 951
 <212> DNA
 <213> Homo sapiens

<400> 4447
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 180
 gaactgggccc tagaacttgt ttttgtgtgg aaccgtgacc ctggacgaat ggcagggagt
 240
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 300
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 360
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 420

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 720
 gtcacggcct tctggcggag cctcctggcc tgctgccagc tcccctccag gccgggggac
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 840
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<210> 4448

<211> 263

<212> PRT

<213> Homo sapiens

<400> 4448

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Cys | Pro | Lys | Ser | Ser | Gly | Cys | Pro | Gly | Leu | Val | Gln | Arg | Ala | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Ser | Pro | Gly | Ser | Gln | Ala | Pro | Asp | Thr | Ala | Leu | Arg | Ala | Met | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Arg | Gly | Pro | Trp | Arg | Val | Gly | Val | Val | Gly | Tyr | Gly | Arg | Leu | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Ser | Leu | Val | Ser | Arg | Leu | Leu | Ala | Gln | Gly | Ser | Glu | Leu | Gly | Leu |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Glu | Leu | Val | Phe | Val | Trp | Asn | Arg | Asp | Pro | Gly | Arg | Met | Ala | Gly | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Val | Pro | Pro | Ala | Leu | Gln | Leu | Glu | Asp | Leu | Thr | Thr | Leu | Glu | Glu | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| His | Pro | Asp | Leu | Val | Val | Glu | Val | Ala | His | Pro | Lys | Ile | Ile | His | Glu |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Ser | Gly | Val | Gln | Ile | Leu | Arg | His | Ala | Asn | Leu | Leu | Ser | Leu | Arg | Val |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Thr | Met | Ala | Thr | His | Pro | Asp | Gly | Phe | Arg | Leu | Glu | Gly | Pro | Leu | Ala |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Ala | Ala | His | Ser | Pro | Gly | Pro | Cys | Thr | Val | Leu | Tyr | Glu | Gly | Pro | Val |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Arg | Gly | Leu | Cys | Pro | Phe | Ala | Pro | Arg | Asn | Ser | Asn | Thr | Met | Ala | Ala |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Ala | Ala | Leu | Ala | Ala | Pro | Ser | Leu | Gly | Phe | Asp | Gly | Val | Ile | Gly | Val |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Leu | Val | Ala | Asp | Thr | Ser | Leu | Thr | Asp | Met | His | Val | Val | Asp | Val | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Ser | Gly | Pro | Arg | Gly | Pro | Thr | Gly | Arg | Ser | Phe | Ala | Val | His | Thr |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Arg | Arg | Glu | Asn | Pro | Ala | Glu | Pro | Gly | Ala | Val | Thr | Gly | Ser | Ala | Thr |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 | | 230 | | 235 | | 240 | | | | | | | | | |
| Val | Thr | Ala | Phe | Trp | Arg | Ser | Leu | Leu | Ala | Cys | Cys | Gln | Leu | Pro | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Arg | Pro | Gly | Ile | His | Leu | Cys | | | | | | | | | |
| | | | 260 | | | | | | | | | | | | |

<210> 4449

<211> 1365

<212> DNA

<213> Homo sapiens

<400> 4449

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1140
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1200
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1260

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aactccacag ttcttgaggc tgattctatt cctgatcctg aactaagtgg agaatctttg
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 1365

<210> 4450
 <211> 194
 <212> PRT
 <213> Homo sapiens

<400> 4450
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 20 25 30
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 35 40 45
 Asn Gly Met Ala Leu Lys Glu Glu Phe Glu Tyr Ile Ala Phe Arg Cys
 50 55 60
 Ala Tyr Cys Phe Phe Leu Asn Pro Ala Arg Lys Thr Arg Pro Gln Ala
 65 70 75 80
 Pro Arg Leu Pro Glu Phe Ser Phe Glu Lys Arg Gln Val Val Glu Gly
 85 90 95
 Ser Ser Ser Val Gly Pro Leu Pro Ser Gly Ser Val Leu Ser Ser Asp
 100 105 110
 Asn Gln Phe Asn Glu Glu Ser Leu Glu His Asp Val Leu Asp Asp Asn
 115 120 125
 Thr Glu Gln Thr Asp Asp Lys Ile Pro Ala Thr Glu Gln Thr Asn Gln
 130 135 140
 Val Ile Glu Lys Ala Ser Asp Ser Glu Glu Pro Glu Glu Lys Gln Glu
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 Thr Glu Asn Glu Glu Ala Ser Val Ile Glu Thr Asn Ser Thr Val Pro
 165 170 175
 Gly Ala Asp Ser Ile Pro Asp Pro Glu Leu Ser Gly Glu Ser Leu Thr
 180 185 190
 Ala Glu

<210> 4451
 <211> 1637
 <212> DNA
 <213> Homo sapiens

<400> 4451
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 180
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 240
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 300

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1440
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<210> 4452

<211> 328

<212> PRT

<213> Homo sapiens

<400> 4452

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Lys Tyr Asn Phe Tyr Leu Pro Phe Phe Phe Gly Pro Ile Met Thr
      35           40           45
Phe Asp Arg Phe His Ala Gln Val Ser Gln Val Glu Pro Val Arg Arg
      50           55           60
Glu Gly Glu Leu Trp His Ile Arg Ala Gln Ala Gly Leu Ser Val Val
      65           70           75           80
Ala Ile Met Ala Val Asp Ile Phe Phe His Phe Phe Tyr Ile Leu Thr
      85           90           95
Ile Pro Ser Asp Leu Lys Phe Ala Asn Arg Leu Pro Asp Ser Ala Leu
      100          105          110
Ala Gly Leu Ala Tyr Ser Asn Leu Val Tyr Asp Trp Val Lys Ala Ala
      115          120          125
Val Leu Phe Gly Val Val Asn Thr Val Ala Cys Leu Asp His Leu Asp
      130          135          140
Pro Pro Gln Pro Pro Lys Cys Ile Thr Ala Leu Tyr Val Phe Ala Glu
      145          150          155          160
Thr His Phe Asp Arg Gly Ile Asn Asp Trp Leu Cys Lys Tyr Val Tyr
      165          170          175
Asn His Ile Gly Gly Glu His Ser Ala Val Ile Pro Glu Leu Ala Ala
      180          185          190
Thr Val Ala Thr Phe Ala Ile Thr Thr Leu Trp Leu Gly Pro Cys Asp
      195          200          205
Ile Val Tyr Leu Trp Ser Phe Leu Asn Cys Phe Gly Leu Asn Phe Glu
      210          215          220
Leu Trp Met Gln Lys Leu Ala Glu Trp Gly Pro Leu Ala Arg Ile Glu
      225          230          235          240
Ala Ser Leu Ser Val Gln Met Ser Arg Arg Val Arg Ala Leu Phe Gly
      245          250          255
Ala Met Asn Phe Trp Ala Ile Ile Met Tyr Asn Leu Val Ser Leu Asn
      260          265          270
Ser Leu Lys Phe Thr Glu Leu Val Ala Arg Arg Leu Leu Leu Thr Gly
      275          280          285
Phe Pro Gln Thr Thr Leu Ser Ile Leu Phe Val Thr Tyr Cys Gly Val
      290          295          300
Gln Leu Val Lys Glu Arg Glu Arg Thr Leu Ala Leu Glu Glu Glu Gln
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Lys Gln Asp Lys Glu Lys Pro Glu
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<210> 4453

<211> 685

<212> DNA

<213> Homo sapiens

<400> 4453

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120
gcacatctat acccactctg gctctgaaag gcttgtcaac caaaaatggg cagctggggc
180

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 685

<210> 4454

<211> 207

<212> PRT

<213> Homo sapiens

<400> 4454

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ile | Ile | Leu | Val | Val | Thr | Leu | His | Thr | Cys | His | Pro | Val | Pro | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Gly | Trp | His | Ile | Tyr | Thr | His | Ser | Gly | Ser | Glu | Arg | Leu | Val | Asn |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Lys | Trp | Ala | Ala | Gly | Ala | Lys | Ala | Tyr | Leu | Asn | Lys | Gly | Ser | Lys |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Gly | Pro | Leu | Ser | Leu | Gly | Ser | Ser | Ile | Gln | Pro | Leu | Ser | Gln | Gln | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gln | Asp | Cys | Gly | Pro | Leu | Cys | Phe | Leu | Asn | Arg | Ala | Gln | Gly | Ser | Gln |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gly | Met | Pro | Ser | Leu | Gln | His | Ser | Thr | Leu | Trp | Ser | Gln | Trp | Ser | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Arg | Ser | Ser | Leu | Lys | Tyr | Tyr | Tyr | Arg | Gly | Glu | Arg | Pro | Ile | Leu | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Met | Leu | Leu | Tyr | Leu | Pro | Arg | Pro | Lys | Thr | Val | Leu | Cys | Ser | Phe | Ser |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Cys | Ser | Glu | Ile | Arg | Ser | Gln | Asn | Ser | Arg | Arg | His | Ser | Phe | Gly | Lys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Lys | Gly | His | Ala | Phe | Val | Leu | Tyr | Leu | Ile | Leu | Val | Ser | Glu | Ala | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ile | Pro | Val | Asp | Cys | Gly | Leu | Arg | Trp | Ser | Pro | Pro | Gln | Asp | Pro | Gln |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Leu | Gln | Arg | Gln | Arg | Arg | Met | Lys | Glu | Glu | Gln | Pro | Pro | Gln | Asp | Leu |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Leu | His | Trp | Glu | Pro | His | Pro | Thr | Phe | Ser | Val | Pro | Phe | Thr | Arg | |
| | | 195 | | | | | 200 | | | | | | 205 | | |

<210> 4455

<211> 882

<212> DNA

<213> Homo sapiens

<400> 4455

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420
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480
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720
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<210> 4456

<211> 261

<212> PRT

<213> Homo sapiens

<400> 4456

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20           25           30
Ile Tyr Glu Leu Thr Val Leu Lys Asp Arg Phe Thr Gly Met His Lys
35           40           45
Gly Cys Ala Phe Leu Thr Tyr Cys Glu Arg Glu Ser Ala Leu Lys Ala
50           55           60
Gln Ser Ala Leu His Glu Gln Lys Thr Leu Pro Gly Met Asn Arg Pro
65           70           75           80
Ile Gln Val Lys Pro Ala Asp Ser Glu Ser Arg Gly Asp Ser Ser Cys
85           90           95
Leu Arg Gln Pro Pro Ser His Arg Lys Leu Phe Val Gly Met Leu Asn

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          100          105          110
Lys Gln Gln Ser Glu Asp Asp Val Arg Arg Leu Phe Glu Ala Phe Gly
          115          120          125
Asn Ile Glu Glu Cys Thr Ile Leu Arg Gly Pro Asp Gly Asn Ser Lys
          130          135          140
Gly Cys Ala Phe Val Lys Tyr Ser Ser His Ala Glu Ala Gln Ala Ala
145          150          155          160
Ile Asn Ala Leu His Gly Ser Gln Thr Met Pro Gly Ala Ser Ser Ser
          165          170          175
Leu Val Val Lys Phe Ala Asp Thr Asp Lys Glu Arg Thr Met Arg Arg
          180          185          190
Met Gln Gln Met Ala Gly Gln Met Gly Met Phe Asn Pro Met Ala Ile
          195          200          205
Pro Phe Gly Ala Tyr Gly Ala Tyr Ala Gln Ala Leu Met Gln Gln Gln
          210          215          220
Ala Ala Leu Met Ala Ser Val Ala Gln Gly Gly Tyr Leu Asn Pro Met
225          230          235          240
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Asn Gly Leu Ala Ala
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<210> 4457

<211> 1491

<212> DNA

<213> Homo sapiens

<400> 4457

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240
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360
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420
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480
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540
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660
ttcgccatct tcctgtcggc gcagggccac tcgttccgga cgcagtcaga actcgggtctg
720
cgcgggacca gagtggagcc cgaagggcgg ggcgagggt accagaatct gggagcctgg
780

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 900
 ctattttcga ttacgctcaa ggataaaaag ctttgctatg accaaggcat tagtggacat
 960
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 1080
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<210> 4458

<211> 405

<212> PRT

<213> Homo sapiens

<400> 4458

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Asn | Gln | Lys | Gly | Gln | Leu | Val | Lys | Arg | Leu | Val | Pro | Val | Glu |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Gln | Leu | Leu | Met | Tyr | Gln | Gln | His | Thr | Ser | His | Tyr | Asp | Leu | Glu | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Gly | Gly | Tyr | Leu | Met | Leu | Ser | Phe | Ile | Asp | Phe | Cys | Pro | Phe | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Val | Met | Arg | Leu | Arg | Ser | Leu | Pro | Ser | Pro | Gln | Arg | Tyr | Thr | Arg | Gln |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Glu | Arg | Tyr | Arg | Ala | Arg | Pro | Pro | Arg | Val | Leu | Glu | Arg | Ser | Gly | Phe |
| 65 | | | | 70 | | | | | | 75 | | | | 80 | |
| His | Asn | Glu | Asn | Ser | Leu | Ala | Ile | Tyr | Gln | Gly | Leu | Val | Tyr | Tyr | Leu |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Leu | Trp | Leu | His | Ser | Val | Tyr | Asp | Lys | Asp | Tyr | Tyr | Phe | Phe | Leu | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Asn | Trp | Arg | Ser | Ala | Gly | Gly | Val | Ser | Ile | Glu | Met | Asp | Ser | Tyr |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Glu | Lys | Ile | Tyr | Asn | Leu | Glu | Ser | Ala | Tyr | Glu | Leu | Pro | Glu | Arg | Ile |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Phe | Leu | Asp | Lys | Gly | Thr | Glu | Tyr | Ser | Phe | Ala | Ile | Phe | Leu | Ser | Ala |
| 145 | | | | 150 | | | | | | 155 | | | | 160 | |
| Gln | Gly | His | Ser | Phe | Arg | Thr | Gln | Ser | Glu | Leu | Gly | Leu | Arg | Gly | Thr |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Arg | Val | Glu | Pro | Glu | Gly | Arg | Gly | Glu | Gly | Tyr | Gln | Asn | Leu | Gly | Ala |

[illegible]

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<210> 4459
<211> 1114
<212> DNA
<213> Homo sapiens
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120
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240
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300
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360
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420
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540
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 660
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 720
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<210> 4460

<211> 121

<212> PRT

<213> Homo sapiens

<400> 4460

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Arg | Cys | Pro | Arg | Arg | Arg | Ala | Arg | Gly | Asn | Pro | Gly | Pro | Gly | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Pro | Pro | Ser | Arg | Ala | Ala | Arg | Arg | Ala | Arg | Ala | Leu | Ser | Pro | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Lys | Glu | Arg | Ala | Ala | Pro | Ser | Gln | Gly | Ser | Pro | Arg | Cys | Cys | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Ser | Pro | Gly | Ser | Ala | Arg | Gly | Ala | Arg | Gly | Glu | Asn | Gln | Pro | Arg |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Ser | Arg | Gly | Arg | Ala | Ala | Asn | Gly | Arg | Ala | Pro | Pro | Gly | Pro | Leu | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Arg | Arg | Leu | Ala | Gly | Arg | Ala | Arg | Thr | Pro | Arg | Pro | Lys | Trp | Leu | Phe |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Gln | Gly | Ala | Ser | Gln | Ala | Gly | Glu | Leu | Gly | Lys | Gln | Arg | Arg | Met | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Leu | Val | Lys | Arg | Val | Arg | Asp | Val | | | | | | | |
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<210> 4461

<211> 488

<212> DNA

<213> Homo sapiens

<400> 4461

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 240
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 300
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 360
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 488

<210> 4462

<211> 96

<212> PRT

<213> Homo sapiens

<400> 4462

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Glu | Ser | Tyr | Thr | Ser | Thr | Ala | Met | Ala | Pro | Lys | Gly | Ile | Phe | Cys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asn | Pro | Tyr | Asn | Asn | Leu | Ile | Phe | Ile | Trp | Gly | Asn | Phe | Leu | Leu | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ser | Asn | Lys | Glu | Asn | Phe | Ile | Tyr | Leu | Ala | Asp | Phe | Pro | Lys | Glu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Leu | Ser | Ile | Lys | Tyr | Met | Ala | Arg | Ser | Phe | Arg | Gly | Ala | Val | Ala | Ile |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Val | Thr | Glu | Thr | Glu | Glu | Val | Gly | Cys | Pro | Ala | Leu | Leu | Pro | Ile | Pro |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Leu | Pro | Thr | Pro | Lys | Pro | Gln | Gly | Pro | Leu | Phe | Pro | Pro | Ser | Gln |
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<210> 4463

<211> 2662

<212> DNA

<213> Homo sapiens

<400> 4463

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 180
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 240
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2040

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<210> 4464

<211> 519

<212> PRT

<213> Homo sapiens

<400> 4464

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| Met | Ala | Ala | Glu | Ala | Ala | Asp | Leu | Gly | Leu | Gly | Ala | Ala | Val | Pro | Val |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Glu | Leu | Arg | Arg | Glu | Arg | Arg | Met | Val | Cys | Val | Glu | Tyr | Pro | Gly | Val |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Val | Arg | Asp | Val | Ala | Lys | Met | Leu | Pro | Thr | Leu | Gly | Gly | Glu | Glu | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Val | Ser | Arg | Ile | Tyr | Ala | Asp | Pro | Thr | Lys | Arg | Leu | Glu | Leu | Tyr | Phe |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Arg | Pro | Lys | Asp | Pro | Tyr | Cys | His | Pro | Val | Cys | Ala | Asn | Arg | Phe | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Thr | Ser | Ser | Leu | Leu | Leu | Arg | Ile | Arg | Lys | Arg | Thr | Arg | Arg | Gln | Lys |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Gly | Val | Leu | Gly | Thr | Glu | Ala | His | Ser | Glu | Val | Thr | Phe | Asp | Met | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ile | Leu | Gly | Ile | Ile | Ser | Thr | Ile | Tyr | Lys | Phe | Gln | Gly | Met | Ser | Asp |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Phe | Gln | Tyr | Leu | Ala | Val | His | Thr | Glu | Ala | Gly | Gly | Lys | His | Thr | Ser |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Met | Tyr | Asp | Lys | Val | Leu | Met | Leu | Arg | Pro | Glu | Lys | Glu | Ala | Phe | Phe |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| His | Gln | Glu | Leu | Pro | Leu | Tyr | Ile | Pro | Pro | Pro | Ile | Phe | Ser | Arg | Leu |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Asp | Ala | Pro | Val | Asp | Tyr | Phe | Tyr | Arg | Pro | Glu | Thr | Gln | His | Arg | Glu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Gly | Tyr | Asn | Asn | Pro | Pro | Ile | Ser | Gly | Glu | Asn | Leu | Ile | Gly | Leu | Ser |

195 200 205
 Arg Ala Arg Arg Pro His Asn Ala Ile Phe Val Asn Phe Glu Asp Glu
 210 215 220
 Glu Val Pro Lys Gln Pro Leu Glu Ala Ala Ala Gln Thr Trp Arg Arg
 225 230 235 240
 Val Cys Thr Asn Pro Val Asp Arg Lys Val Glu Glu Glu Leu Arg Lys
 245 250 255
 Leu Phe Asp Ile Arg Pro Ile Trp Ser Arg Asn Ala Val Lys Ala Asn
 260 265 270
 Ile Ser Val His Pro Asp Lys Leu Lys Val Leu Leu Pro Phe Ile Ala
 275 280 285
 Tyr Tyr Met Ile Thr Gly Pro Trp Arg Ser Leu Trp Ile Arg Phe Gly
 290 295 300
 Tyr Asp Pro Arg Lys Asn Pro Asp Ala Lys Ile Tyr Gln Val Leu Asp
 305 310 315 320
 Phe Arg Ile Arg Cys Gly Met Lys His Gly Tyr Ala Pro Ser Asp Leu
 325 330 335
 Pro Val Lys Ala Lys Arg Ser Thr Tyr Asn Tyr Ser Leu Pro Ile Thr
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 Val Lys Lys Thr Ser Ser Gln Leu Val Thr Met His Asp Leu Lys Gln
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 Gly Leu Gly Arg Ser Gly Thr Ser Gly Ala Arg Lys Pro Ala Ser Ser
 370 375 380
 Lys Tyr Lys Leu Lys Asp Ser Val Tyr Ile Phe Arg Glu Gly Ala Leu
 385 390 395 400
 Pro Pro Tyr Arg Gln Met Phe Tyr Gln Leu Cys Asp Leu Asn Val Glu
 405 410 415
 Glu Leu Gln Lys Ile Ile His Arg Asn Asp Gly Ala Glu Asn Ser Cys
 420 425 430
 Thr Glu Arg Asp Gly Trp Cys Leu Pro Lys Thr Ser Asp Glu Leu Arg
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 Asp Thr Met Ser Leu Met Ile Arg Gln Thr Ile Arg Ser Lys Arg Pro
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 Ala Leu Phe Ser Ser Ser Ala Lys Ala Asp Gly Gly Lys Glu Gln Leu
 465 470 475 480
 Thr Tyr Glu Ser Gly Glu Asp Glu Glu Asp Glu Glu Glu Glu Glu Glu
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 Glu Glu Glu Asp Phe Lys Pro Ser Asp Gly Ser Glu Asn Glu Met Glu
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 Thr Glu Ile Leu Asp Tyr Val
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<210> 4465

<211> 1291

<212> DNA

<213> Homo sapiens

<400> 4465

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caggccgggt cggccgcgcc cgggccaccg cgggcccagc agccacagca gccatcccaa
 240
 gagaagttct acagcatggc tgccagatca agctactctt agaaattccg gagaagatct
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 420
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 480
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 1080
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<210> 4466

<211> 93

<212> PRT

<213> Homo sapiens

<400> 4466

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| Gly | Leu | Glu | Arg | Gln | Val | Arg | Ala | Glu | Ile | Glu | His | Lys | Lys | Glu | Glu |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Leu | Arg | Gln | Met | Val | Gly | Glu | Arg | Tyr | Arg | Asp | Leu | Ile | Glu | Ala | Xaa |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Thr | Ile | Gly | Gln | Met | Arg | Arg | Xaa | Ala | Val | Gly | Leu | Val | Asp | Ala |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Val | Lys | Ala | Thr | Asp | Gln | Tyr | Cys | Ala | Arg | Leu | Arg | Gln | Ala | Gly | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ala | Ala | Pro | Arg | Pro | Pro | Arg | Ala | Gln | Gln | Pro | Gln | Gln | Pro | Ser | Gln |

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | 70 | | 75 | | 80 | | | | | | |
| Glu | Lys | Phe | Tyr | Ser | Met | Ala | Ala | Arg | Ser | Ser | Tyr | Ser |
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<210> 4467

<211> 1142

<212> DNA

<213> Homo sapiens

<400> 4467

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240
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300
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420
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600
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720
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1020
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<210> 4468

<211> 170

<212> PRT

<213> Homo sapiens

<400> 4468

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Lys Glu His Leu Ser Gln Leu Glu Ser Pro Val Val Phe Cys His Asn
 20           25           30
Asp Leu Leu Cys Lys Asn Ile Ile Tyr Asp Ser Ile Lys Gly His Val
 35           40           45
Arg Phe Ile Asp Tyr Glu Tyr Ala Gly Tyr Asn Tyr Gln Ala Phe Asp
 50           55           60
Ile Gly Asn His Phe Asn Glu Phe Ala Gly Val Asn Glu Val Asp Tyr
 65           70           75           80
Cys Leu Tyr Pro Ala Arg Glu Thr Gln Leu Gln Trp Leu His Tyr Tyr
 85           90           95
Leu Gln Ala Gln Lys Gly Met Ala Val Thr Pro Arg Glu Val Gln Arg
 100          105          110
Leu Tyr Val Gln Val Asn Lys Phe Ala Leu Ala Ser His Phe Phe Trp
 115          120          125
Ala Leu Trp Ala Leu Ile Gln Asn Gln Tyr Ser Thr Ile Asp Phe Asp
 130          135          140
Phe Leu Arg Tyr Ala Val Ile Arg Phe Asn Gln Tyr Phe Lys Val Lys
 145          150          155          160
Pro Gln Ala Ser Ala Leu Glu Met Pro Lys
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<210> 4469

<211> 409

<212> DNA

<213> Homo sapiens

<400> 4469

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240
tggaatatag tagctgtgtc tgagactcct ggagaacaat taatatgagg gccaggcaga
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<210> 4470

<211> 55

<212> PRT

<213> Homo sapiens

<400> 4470

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Ile Tyr Asp Ala Gln His Ala Asn Leu Ala Gly Thr Leu Ser Gly His

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| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| 1 | | 5 | | 10 | | 15 |
| Ala | Ser | Trp | Val | Leu | Asn | Val |
| | | | 20 | | 25 | |
| Val | Ser | Arg | Ser | Gln | Cys | Trp |
| | | 35 | | | 40 | |
| Glu | Ser | Arg | Arg | Trp | Thr | Thr |
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<210> 4471

<211> 1771

<212> DNA

<213> Homo sapiens

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120
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180
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240
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660
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720
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780
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900
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960
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1020
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1080
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1140
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1200

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 1320
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 1380
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 1620
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 1771

<210> 4472

<211> 160

<212> PRT

<213> Homo sapiens

<400> 4472

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Ile | Pro | Val | Pro | Val | Gln | Pro | Ser | Trp | Leu | Arg | Arg | Ala | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Pro | Leu | Pro | Gly | Leu | Ser | Ala | Pro | Gly | Arg | Leu | Phe | Asp | Gln | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Gly | Glu | Gly | Leu | Leu | Glu | Ala | Glu | Leu | Ala | Ala | Leu | Cys | Pro | Thr |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Thr | Leu | Ala | Pro | Tyr | Tyr | Leu | Arg | Ala | Pro | Ser | Val | Ala | Leu | Pro | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ala | Gln | Val | Pro | Thr | Asp | Pro | Gly | His | Phe | Ser | Val | Leu | Leu | Asp | Val |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Lys | His | Phe | Ser | Pro | Glu | Glu | Ile | Ala | Val | Lys | Val | Val | Gly | Glu | His |
| | | | 85 | | | | | | 90 | | | | 95 | | |
| Val | Glu | Val | His | Ala | Arg | His | Glu | Glu | Arg | Pro | Asp | Glu | His | Gly | Phe |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Val | Ala | Arg | Glu | Phe | His | Arg | Arg | Tyr | Arg | Leu | Pro | Pro | Gly | Val | Asp |
| | | 115 | | | | | | 120 | | | | 125 | | | |
| Pro | Ala | Ala | Val | Thr | Ser | Ala | Leu | Ser | Pro | Glu | Gly | Val | Leu | Ser | Ile |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gln | Ala | Ala | Pro | Ala | Ser | Ala | Gln | Ala | Pro | Pro | Pro | Ala | Ala | Ala | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |

<210> 4473

<211> 1255

<212> DNA

<213> Homo sapiens

<400> 4473

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 240
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 300
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 660
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 720
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<210> 4474

<211> 305

<212> PRT

<213> Homo sapiens

<400> 4474

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| Met | Thr | Asn | Gln | Tyr | Gly | Ile | Leu | Phe | Lys | Gln | Glu | Gln | Ala | His | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asp | Ala | Ile | Trp | Ser | Val | Ala | Trp | Gly | Thr | Asn | Lys | Lys | Glu | Asn | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Thr | Val | Val | Thr | Gly | Ser | Leu | Asp | Asp | Leu | Val | Lys | Val | Trp | Lys |

35 40 45
 Trp Arg Asp Glu Arg Leu Asp Leu Gln Trp Ser Leu Glu Gly His Gln
 50 55 60
 Leu Gly Val Val Ser Val Asp Ile Ser His Thr Leu Pro Ile Ala Ala
 65 70 75 80
 Ser Ser Ser Leu Asp Ala His Ile Arg Leu Trp Asp Leu Glu Asn Gly
 85 90 95
 Lys Gln Met Lys Ser Ile Asp Ala Gly Pro Val Asp Ala Trp Thr Leu
 100 105 110
 Ala Phe Ser Pro Asp Ser Gln His Leu Ala Thr Gly Thr His Met Gly
 115 120 125
 Lys Val Asn Ile Phe Gly Val Glu Ser Gly Lys Lys Glu Tyr Ser Leu
 130 135 140
 Asp Thr Arg Gly Lys Phe Ile Leu Ser Ile Ala Tyr Ser Pro Asp Gly
 145 150 155 160
 Lys Tyr Leu Ala Ser Gly Ala Ile Asp Gly Ile Ile Asn Ile Phe Asp
 165 170 175
 Ile Ala Thr Gly Lys Leu Leu His Thr Leu Glu Gly His Ala Met Pro
 180 185 190
 Ile Arg Ser Leu Thr Phe Ser Pro Asp Ser Gln Leu Leu Val Thr Ala
 195 200 205
 Ser Asp Asp Gly Tyr Ile Lys Ile Tyr Asp Val Gln His Ala Asn Leu
 210 215 220
 Ala Gly Thr Leu Ser Gly His Ala Ser Trp Val Leu Asn Val Ala Phe
 225 230 235 240
 Cys Pro Asp Asp Thr His Phe Val Ser Ser Ser Ser Asp Lys Ser Val
 245 250 255
 Lys Val Trp Asp Val Gly Thr Arg Thr Cys Val His Thr Phe Phe Asp
 260 265 270
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<210> 4475

<211> 475

<212> DNA

<213> Homo sapiens

<400> 4475

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 360

ccacttctga gggctggagg gacaggaact tcctttcttc cccctttctg tctcctcgcg
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<210> 4476
 <211> 106
 <212> PRT
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<400> 4476
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 35 40 45
 Gly His Thr Glu Gly Ser Val Ala Leu His Gly Ser Pro Ala Ser Arg
 50 55 60
 Gln Thr Ser Gln Arg Trp Thr Val Cys Gln Gly Trp Asp Trp Asn Ser
 65 70 75 80
 Arg Arg Ser Leu Asp Thr Ser Gly Ile Arg Glu Thr Ser Leu Gly Arg
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 Tyr Pro Leu Pro Ser Ser Arg Val His Ala
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<210> 4477
 <211> 1153
 <212> DNA
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 120
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 180
 aagcaccaag ttctcacaag ttattttatg tgactttgca ggaactgagg cattatatct
 240
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 360
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 420
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 660

agtcaactta cactttttcc ttcttcattc acaaagctct tcttccctgg gccctgggtat
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 gcatgaagga tgttttcttc ctgagaaaaca gtgtcaaggg ctggaggaag agggcacaat
 1080
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 1140
 ttttcttgta gga
 1153

<210> 4478

<211> 118

<212> PRT

<213> Homo sapiens

<400> 4478

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Lys | Arg | Gly | Glu | Val | Gly | Lys | Ile | Lys | Glu | Cys | Leu | Glu | Gly |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Lys | Thr | Glu | Tyr | Gln | Glu | Ser | Glu | Phe | Leu | Ser | Pro | Ala | Tyr | Ser | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Pro | Leu | Gly | Leu | Cys | Glu | Asn | Ala | Asp | Val | Leu | Asp | Arg | Arg | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Glu | Gly | Asn | Met | Lys | Glu | Glu | Asn | Asn | Asn | Glu | Ser | Lys | Ser | Thr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Ile | Pro | Gly | His | Phe | Ile | His | Phe | Gln | Asp | Tyr | Cys | Ala | Pro | Ile |
| 65 | | | | 70 | | | | | | 75 | | | | 80 | |
| Ser | Thr | Leu | Met | Val | Cys | Val | Asp | Thr | Ala | Gln | Gly | Cys | Ile | Ser | Leu |
| | | | 85 | | | | | | 90 | | | | 95 | | |
| Arg | Cys | His | Thr | Phe | Pro | Leu | Val | Ser | Ser | Asp | Ile | Met | Pro | Gln | Phe |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Gln | Ser | His | Ile | Lys | | | | | | | | | | |
| | | | 115 | | | | | | | | | | | | |

<210> 4479

<211> 2158

<212> DNA

<213> Homo sapiens

<400> 4479

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 120
 ggcgggcccac gcgcagcaca gggagagatg agcagcacca gcagtaagag ggctccgacc
 180

acggcaaccc agaggctgaa gcaggactac cttcgcatta agaaagaccc ggtgccttac
240
atctgtgccg agccccctccc ttccaatatt ctcgagtggc actatgtcgt ccgaggccca
300
gagatgaccc cttatgaagg tggctattac catggaaaac taatttttcc cagagaattt
360
cctttcaaac ctcccagtat ctatatgatc actcccaacg ggagggttta gtgcaacacc
420
aggctgtgtc tttctatcac ggatttccac ccggacacgt ggaaccocggc ctgggtctgtc
480
tccaccatcc tgactgggct cctgagcttc atgggtggaga agggccccac cctgggcagt
540
atagagacgt cggacttcac gaaaagacaa ctggcagtgc agagttagc atttaatttg
600
aaagataaag tcttttgtga attatttcct gaagtcgtgg aggagattaa acaaaaacag
660
aaagcacaag acgaactcag tagcagaccc cagactctcc ccttgccaga cgtgggtcca
720
gacggggaga cgcacctcgt ccagaacggg attcagctgc tcaacgggca tgcgcgggg
780
gccgtcccaa acctcgcagg gctccagcag gccaacocggc accacggact cctgggtggc
840
gccctggcga acttggttgt gatagttggg ttgacagcct ttgcttacac ggtcaagtac
900
gtgctgagga gcatcgcgca ggagtgggc ccaggcgccg agaccaagg cgccactgag
960
ggcaccgcgc accagagcgt gacctcggca ggctggacac actgcccagc acaggcagac
1020
ccaccaggct cctaggttta gcttttaaaa acctgaaagg ggaagcaaaa accaaaatgt
1080
gtgactgggc tttggaggag actggagcct cagccctgtc ctggccacgg gccgctgggg
1140
ctgggtgtggg tgggccttgt gtgctggatt tgtagcttat cttcogtgtt gtctttggac
1200
ctgttttagt aaaccogttt ttcattttat tagatgtggc cacttagaaa tgcaaacttg
1260
ctgccgaccg cgggctgctc ctgcgttctt ggagctcctg gcgcgtttct cggagctccc
1320
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1380
gtctggcctg gccgtgtggc gatgaggctt agcggggcca gtgacggccg tggctcagga
1440
tccataagtc ggggttttgt ctacgattt acaaagtgtt ttacagtcag aatgaaacac
1500
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1560
ccaaccacaa gtcgcccttg actgcggcgg ccgcgagcgg ggcgggggct gccggtgccc
1620
tccgcaggcc gggcctcctg ggcgcccctc ggtgctgcag gctggggggc cttgggtacc
1680
tgcagagcct tttctctgaa ttccttatgt ccggtgggccc agaagcccg cctcctatgc
1740
tgggtgaagg cggaggaccg gactccctgc agaaggcccc gtgcactcgg gggcctccct
1800

cacatcccgt gccccctgcg ctggccttca cagtaggtaa tggctccggc ccgggtgttc
 1860
 gctgtccacg gaacatggca gaggggcacc ccggcccga aagacgccag agccagcagg
 1920
 ggctgtttcg ggccgcgtgg ctccccgggt ctcggccgtc tccccctcttc tgcgtctgtt
 1980
 ccgtgacttc gcctgggtgg gatgtaccgc aggtgcatcg cgtcgagggtg gggcacggcc
 2040
 gccggcaaga aaccaccct gtccggaggc gggcgtgaga caagcccagc ccgcacgcgc
 2100
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 2158

<210> 4480

<211> 308

<212> PRT

<213> Homo sapiens

<400> 4480

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Arg | Arg | Pro | Ala | Ala | Gly | Ser | Val | Gly | Pro | Ile | Pro | Gly | Arg | Cys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Cys | Phe | Gly | Arg | Gly | Pro | Arg | Phe | Ser | Ala | Pro | Cys | Ser | Gly | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Tyr | Gly | Glu | Pro | Glu | Arg | Gly | Gly | Gly | Pro | Arg | Ala | Ala | Gln | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | Met | Ser | Ser | Thr | Ser | Ser | Lys | Arg | Ala | Pro | Thr | Thr | Ala | Thr | Gln |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Leu | Lys | Gln | Asp | Tyr | Leu | Arg | Ile | Lys | Lys | Asp | Pro | Val | Pro | Tyr |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ile | Cys | Ala | Glu | Pro | Leu | Pro | Ser | Asn | Ile | Leu | Glu | Trp | His | Tyr | Val |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Val | Arg | Gly | Pro | Glu | Met | Thr | Pro | Tyr | Glu | Gly | Gly | Tyr | Tyr | His | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Leu | Ile | Phe | Pro | Arg | Glu | Phe | Pro | Phe | Lys | Pro | Pro | Ser | Ile | Tyr |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Met | Ile | Thr | Pro | Asn | Gly | Arg | Phe | Lys | Cys | Asn | Thr | Arg | Leu | Cys | Leu |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Ser | Ile | Thr | Asp | Phe | His | Pro | Asp | Thr | Trp | Asn | Pro | Ala | Trp | Ser | Val |
| 145 | | | | 150 | | | | | | 155 | | | | 160 | |
| Ser | Thr | Ile | Leu | Thr | Gly | Leu | Leu | Ser | Phe | Met | Val | Glu | Lys | Gly | Pro |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Thr | Leu | Gly | Ser | Ile | Glu | Thr | Ser | Asp | Phe | Thr | Lys | Arg | Gln | Leu | Ala |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Val | Gln | Ser | Leu | Ala | Phe | Asn | Leu | Lys | Asp | Lys | Val | Phe | Cys | Glu | Leu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Phe | Pro | Glu | Val | Val | Glu | Glu | Ile | Lys | Gln | Lys | Gln | Lys | Ala | Gln | Asp |
| | 210 | | | | | 215 | | | | | | 220 | | | |
| Glu | Leu | Ser | Ser | Arg | Pro | Gln | Thr | Leu | Pro | Leu | Pro | Asp | Val | Val | Pro |
| | | | | | 230 | | | | | 235 | | | | 240 | |
| Asp | Gly | Glu | Thr | His | Leu | Val | Gln | Asn | Gly | Ile | Gln | Leu | Leu | Asn | Gly |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| His | Ala | Pro | Gly | Ala | Val | Pro | Asn | Leu | Ala | Gly | Leu | Gln | Gln | Ala | Asn |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Arg | His | His | Gly | Leu | Leu | Gly | Gly | Ala | Leu | Ala | Asn | Leu | Phe | Val | Ile |

```

      275              280              285
Val Gly Phe Ala Ala Phe Ala Tyr Thr Val Lys Tyr Val Leu Arg Ser
      290              295              300
Ile Ala Gln Glu
305

```

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<210> 4481
<211> 320
<212> DNA
<213> Homo sapiens
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<400> 4481
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120
acgtggggag gggaccccg gctgggcttc gtaggggctt caaggacccc tgacttctgg
180
ggtgtgcctg acagcagggg aggcccccaga gctggccttg gccatgtcca gtcctaatt
240
gacctttgtc ccttccttcc cctgcctctc tgtgcgtcgc tggactcgcc acgggagttc
300
tcacgaatgg gcaccaatt
320
```

```
<210> 4482
<211> 101
<212> PRT
<213> Homo sapiens
```

```

<400> 4482
Met Gly Cys Ala Trp Arg Leu Gly Gly Cys Ile Trp Thr Ala Ser Gly
  1                               10                      15
Trp Gly Leu Gly Thr Ser Cys Cys Ala Ala Arg Lys Gln Asp Ser Ala
                20                      25                      30
Cys Pro Pro Thr Trp Gly Gly Asp Pro Gly Leu Gly Phe Val Gly Ala
                35                      40                      45
Ser Arg Thr Pro Asp Phe Trp Gly Val Pro Asp Ser Arg Gly Gly Pro
                50                      55                      60
Arg Ala Gly Leu Gly His Val Gln Ser Leu Ile Asp Leu Cys Pro Phe
65                70                75                80
Leu Pro Leu Pro Leu Cys Ala Ser Leu Asp Ser Pro Arg Glu Phe Ser
                85                90                95
Arg Met Gly Thr Gln
                100

```

```
<210> 4483
<211> 1852
<212> DNA
<213> Homo sapiens
```

```
<400> 4483
nnggttgccg cgtgccggga gctgagttat agctgtgact tctgccctgc caggccgcac
60
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acaagctggc tgacccgggt tgtaaaaatg gaatttcaag cagtagtgat ggacagtaggt
120
ggaggatctc ggatgacaga cctaacttcc agcattccca aacctctgct tccagttggg
180
aacaacacct taatttggta ccattgaac ctgcttgagc gtgttggtt tgaagaagtc
240
attgtggta caaccaggga tgttcaaaag gctctatgtg cagaattcaa gatgaaaatg
300
aagccagata ttgtgtgtat tcttgatgac gctgacatgg gaactgcaga ttctttgcgc
360
tacatatatc caaaacttaa gacagatgtg ctgggtgctga gctgtgatct gataacagac
420
gttgccctac atgaggttgt ggacctgttt agagcttatg atgcatcact tgctatgttg
480
atgagaaaag gccaaagatag catagaacct gttcccggtc aaaaggggaa aaaaaagca
540
gtggagcagc gtgacttcat tggagtggac agcacaggaa agaggctgct cttcatggct
600
aatgaagcag acttgatga agagctggtc attaagggat ccctctaca gaagcatcct
660
agaatacgtt tccacacggg tcttgtggat gccacacct actgtttgaa aaaatacatc
720
gtggatttcc taatggaaaa tgggtcaata acttctatcc ggagtgaact gattccatat
780
ttagtggaaa aacagttttc ctcagcttcc tcacaacagg gacaagaaga aaaagaggag
840
gatctaaaga aaaaggagct gaagtcctta gatctctaca gttttataaa agaagccaat
900
acactgaacc tggctcccta tgatgcctgc tggaatgcct gtcgaggaga cagggtggaa
960
gacttgtcca gatcacaggc gcgctgctat gtccacatca tgaaagaggg gctctgctct
1020
cgagttagca cactgggact ctacatggaa gcaaacagac aggtgcccac attgctgtct
1080
gctctctgtc cagaagaacc accagtccat tcttcagccc agattgtcag caaacacctg
1140
gttggagttg acagcctcat tgggccagag acacagattg gagagaagtc atccattaag
1200
cgctcagtca ttggctcatc ctgtctcata aaagatagag tgactattac caattgcctt
1260
ctcatgaact cagtcactgt ggaggaagga agcaatatcc aaggcagtgt catctgcaac
1320
aatgctgtga tcgagaaggg tgcagacatc aaggactgct tgattggaag tggccagagg
1380
attgaagcca aagctaaacg agtgaatgag gtgatcgtgg ggaatgacca gctcatggag
1440
atctgagttc tgagcaagtc agactccttc cttttggcct ccaaagccac agatgttggc
1500
cggcccacct gtttaactct gtattttatt cccaataaag aagggttcc aaaggcatgc
1560
tggagacttg tggagcagtc caaagctcca tgtcagggtg gctccagggt tacacagtgt
1620
atgttcatgt gtcatgtggt aaagatcatc tggagcaagt gtgtgggaca ggacagatac
1680

agtggcctaa ctcttggtg ccaagatgta tcgggtggggc agcagctgtc caatgtaaag
 1740
 ctcttaggaa ggctactttc tgactggctg acccaaccca gtcttgaaag tatccctcac
 1800
 ctaaaaggac ctgggagtag ttcagtcctt tatectaatac agccttttcta ga
 1852

<210> 4484

<211> 452

<212> PRT

<213> Homo sapiens

<400> 4484

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Phe | Gln | Ala | Val | Val | Met | Ala | Val | Gly | Gly | Gly | Ser | Arg | Met |
| 1 | | | 5 | | | | | | 10 | | | | | 15 | |
| Thr | Asp | Leu | Thr | Ser | Ser | Ile | Pro | Lys | Pro | Leu | Leu | Pro | Val | Gly | Asn |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Lys | Pro | Leu | Ile | Trp | Tyr | Pro | Leu | Asn | Leu | Leu | Glu | Arg | Val | Gly | Phe |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Glu | Glu | Val | Ile | Val | Val | Thr | Thr | Arg | Asp | Val | Gln | Lys | Ala | Leu | Cys |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Ala | Glu | Phe | Lys | Met | Lys | Met | Lys | Pro | Asp | Ile | Val | Cys | Ile | Pro | Asp |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Asp | Ala | Asp | Met | Gly | Thr | Ala | Asp | Ser | Leu | Arg | Tyr | Ile | Tyr | Pro | Lys |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Leu | Lys | Thr | Asp | Val | Leu | Val | Leu | Ser | Cys | Asp | Leu | Ile | Thr | Asp | Val |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Ala | Leu | His | Glu | Val | Val | Asp | Leu | Phe | Arg | Ala | Tyr | Asp | Ala | Ser | Leu |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Ala | Met | Leu | Met | Arg | Lys | Gly | Gln | Asp | Ser | Ile | Glu | Pro | Val | Pro | Gly |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gln | Lys | Gly | Lys | Lys | Lys | Ala | Val | Glu | Gln | Arg | Asp | Phe | Ile | Gly | Val |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Asp | Ser | Thr | Gly | Lys | Arg | Leu | Leu | Phe | Met | Ala | Asn | Glu | Ala | Asp | Leu |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Asp | Glu | Glu | Leu | Val | Ile | Lys | Gly | Ser | Ile | Leu | Gln | Lys | His | Pro | Arg |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Ile | Arg | Phe | His | Thr | Gly | Leu | Val | Asp | Ala | His | Leu | Tyr | Cys | Leu | Lys |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Lys | Tyr | Ile | Val | Asp | Phe | Leu | Met | Glu | Asn | Gly | Ser | Ile | Thr | Ser | Ile |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Arg | Ser | Glu | Leu | Ile | Pro | Tyr | Leu | Val | Arg | Lys | Gln | Phe | Ser | Ser | Ala |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ser | Ser | Gln | Gln | Gly | Gln | Glu | Glu | Lys | Glu | Glu | Asp | Leu | Lys | Lys | Lys |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Glu | Leu | Lys | Ser | Leu | Asp | Ile | Tyr | Ser | Phe | Ile | Lys | Glu | Ala | Asn | Thr |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Leu | Asn | Leu | Ala | Pro | Tyr | Asp | Ala | Cys | Trp | Asn | Ala | Cys | Arg | Gly | Asp |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Arg | Trp | Glu | Asp | Leu | Ser | Arg | Ser | Gln | Val | Arg | Cys | Tyr | Val | His | Ile |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Met | Lys | Glu | Gly | Leu | Cys | Ser | Arg | Val | Ser | Thr | Leu | Gly | Leu | Tyr | Met |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Glu | Ala | Asn | Arg | Gln | Val | Pro | Lys | Leu | Leu | Ser | Ala | Leu | Cys | Pro | Glu |

```

          325          330          335
Glu Pro Pro Val His Ser Ser Ala Gln Ile Val Ser Lys His Leu Val
          340          345          350
Gly Val Asp Ser Leu Ile Gly Pro Glu Thr Gln Ile Gly Glu Lys Ser
          355          360          365
Ser Ile Lys Arg Ser Val Ile Gly Ser Ser Cys Leu Ile Lys Asp Arg
          370          375          380
Val Thr Ile Thr Asn Cys Leu Leu Met Asn Ser Val Thr Val Glu Glu
          385          390          395          400
Gly Ser Asn Ile Gln Gly Ser Val Ile Cys Asn Asn Ala Val Ile Glu
          405          410          415
Lys Gly Ala Asp Ile Lys Asp Cys Leu Ile Gly Ser Gly Gln Arg Ile
          420          425          430
Glu Ala Lys Ala Lys Arg Val Asn Glu Val Ile Val Gly Asn Asp Gln
          435          440          445
Leu Met Glu Ile
          450

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<210> 4485
 <211> 513
 <212> DNA
 <213> Homo sapiens

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<400> 4485
ggatccacgt cagcccgaca tcgctgcttt atagccatgt tcacgtgtca tatgcgtctc
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agggtaccca aaatcacagg gccaaactcac ggggctccta ccactctagc cagtcattggg
120
gtcaggaata cccaccctc atccaaaatg tgtactcccc caaccttttg tgttcagacc
180
cacaggcctt atagcgccct gtgcgtgccc cagcatttcc ctgcctagtg gggctccagg
240
cgggcagggt gacctccttc ccaggcagt tccacacctg atcccaaaag tcagttctaa
300
tgaagtggat tcattcaaact actggtggtt ctggttgagg cgggtaagtg agggcacaga
360
gaaaaccccc aaatgtagag tatgtgacac agcacaagc agtcccatgc caaactgatg
420
cagtggcatt ccaagtttag agttccaccg cttgagacca tccaggattc ttttaccat
480
tacttgctct actgtctcct atctatttca tga
513

```

<210> 4486
 <211> 100
 <212> PRT
 <213> Homo sapiens

```

<400> 4486
Met Gly Ser Gly Ile Pro His Pro His Pro Lys Cys Val Leu Pro Gln
1      5      10      15
Pro Phe Val Phe Arg Pro Thr Gly Leu Ile Ala Pro Cys Ala Cys Pro
20      25      30
Ser Ile Ser Leu Pro Ser Gly Ala Pro Gly Gly Gln Gly Asp Leu Leu

```

```

      35              40              45
Pro Gln Ala Val Pro His Leu Ile Pro Lys Val Ser Ser Asn Glu Val
      50              55              60
Asp Ser Phe Lys Tyr Trp Trp Phe Trp Leu Ala Arg Val Ser Glu Gly
65              70              75              80
Thr Glu Lys Thr Pro Lys Cys Arg Val Cys Asp Thr Ala Gln Ser Ser
      85              90              95
Pro Met Pro Asn
      100

```

<210> 4487
 <211> 387
 <212> DNA
 <213> Homo sapiens

```

<400> 4487
nnacgcgtaa agatactttt tcttttctgg attcccaatt ttaggtggca gtcgcaaccc
60
atactattcg gacagatggc acagaaaccg ctgcgcctct tggcttgtgg agatgttgaa
120
ggaaagtttg atattttatt caatagagtt caagcaattc agaagaaaag tggaaacttt
180
gatctgctgt tgtgtgtagg aaatttcttt ggctccaccc aagatgctga atgggaggag
240
tataagactg gcatcaagaa agctcctatt cagacatatg tgcttggtgc taataaccag
300
gaaacagtaa aatatttcca ggatgctgat ggatgtgaat tagctgaaaa cattacttat
360
ctgggtcgta aaggtatctt cactgga
387

```

<210> 4488
 <211> 129
 <212> PRT
 <213> Homo sapiens

```

<400> 4488
Xaa Arg Val Lys Ile Leu Phe Leu Phe Trp Ile Pro Asn Phe Arg Trp
1      5      10      15
Gln Ser Gln Pro Ile Leu Phe Gly Gln Met Ala Gln Lys Pro Leu Arg
      20      25      30
Leu Leu Ala Cys Gly Asp Val Glu Gly Lys Phe Asp Ile Leu Phe Asn
      35      40      45
Arg Val Gln Ala Ile Gln Lys Lys Ser Gly Asn Phe Asp Leu Leu Leu
50      55      60
Cys Val Gly Asn Phe Phe Gly Ser Thr Gln Asp Ala Glu Trp Glu Glu
65      70      75      80
Tyr Lys Thr Gly Ile Lys Lys Ala Pro Ile Gln Thr Tyr Val Leu Gly
      85      90      95
Ala Asn Asn Gln Glu Thr Val Lys Tyr Phe Gln Asp Ala Asp Gly Cys
      100      105      110
Glu Leu Ala Glu Asn Ile Thr Tyr Leu Gly Arg Lys Gly Ile Phe Thr
      115      120      125
Gly

```

<210> 4489

<211> 2390

<212> DNA

<213> Homo sapiens

<400> 4489

ngaattcaga ttgtgggggtt gacagaactt cagagtcttg cagttgggcc ccgagttttc
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cagtacggag tcaaagttgt acttcaggct atgtacttgc tgtggaagtt gatgtggagg
120
gagccaggtg cctatatctt tctccagaac cccccaggtc tgccatagcat tgctgtctgc
180
tggttcgtgg gctgcctttg tggaagcaag ctcgtcattg actggcaca ctatggctac
240
tccatcatgg gtctggtgca tggccccaac catccctcg ttctgctggc caagtggtag
300
gagaagttct ttgggcgcct gtcccacctg aacctgtgtg ttaccaatgc tatgcgagaa
360
gacctggcgg ataactggca catcagggtc gtgaccgtct acgacaagcc cgcattcttc
420
tttaaagaga cacctctgga cctgcagcac cggctcttca tgaagctggg cagcatgcac
480
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<210> 4494

<211> 111

<212> PRT

<213> Homo sapiens

<400> 4494

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Asp Leu Ile Ser Glu Glu Thr Asp Pro Lys Ile Ile Thr Ala Gly Asn
      35           40           45
Leu Val His Leu Ala Leu Arg Phe Lys Cys Asn Gln Asn Cys Pro Gln
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Gly Pro Ala Ile Lys Ala Leu Ser Leu Ser Thr Phe Trp Tyr Leu Val
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<210> 4495

<211> 3623

<212> DNA

<213> Homo sapiens

<400> 4495

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<210> 4496

<211> 560

<212> PRT

<213> Homo sapiens

<400> 4496

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Gly | Lys | Thr | Ala | Cys | Gly | Phe | Ser | Leu | Met | Ser | Leu | Leu | Glu | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Asp | Pro | Asp | Trp | Thr | Pro | Asp | Gln | Tyr | Asp | Tyr | Ser | Tyr | Glu | Asp |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Tyr | Asn | Gln | Glu | Glu | Asn | Thr | Ser | Ser | Thr | Leu | Thr | His | Ala | Glu | Asn |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Pro | Asp | Trp | Tyr | Tyr | Thr | Glu | Asp | Gln | Ala | Asp | Pro | Cys | Gln | Pro | Asn |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Pro | Cys | Glu | His | Gly | Gly | Asp | Cys | Leu | Val | His | Gly | Ser | Thr | Phe | Thr |

| | | | | | |
|-------------|---|-----------------------------|----|-----|----|
| | 85 | | 90 | | 95 |
| Cys Ser Cys | Leu Ala Pro Phe Ser Gly | Asn Lys Cys Gln Lys Val Gln | | | |
| | 100 | 105 | | 110 | |
| Asn Thr Cys | Lys Asp Asn Pro Cys Gly Arg Gly Gln Cys Leu Ile Thr | | | | |
| | 115 | 120 | | 125 | |
| Gln Ser Pro | Pro Tyr Tyr Arg Cys Val Cys Lys His Pro Tyr Thr Gly | | | | |
| | 130 | 135 | | 140 | |
| Pro Ser Cys | Ser Gln Val Val Pro Val Cys Arg Pro Asn Pro Cys Gln | | | | |
| 145 | 150 | 155 | | 160 | |
| Asn Gly Ala | Thr Cys Ser Arg His Lys Arg Arg Ser Lys Phe Thr Cys | | | | |
| | 165 | 170 | | 175 | |
| Ala Cys Pro | Asp Gln Phe Lys Gly Lys Phe Cys Glu Ile Gly Ser Asp | | | | |
| | 180 | 185 | | 190 | |
| Asp Cys Tyr | Val Gly Asp Gly Tyr Ser Tyr Arg Gly Lys Met Asn Arg | | | | |
| | 195 | 200 | | 205 | |
| Thr Val Asn | Gln His Ala Cys Leu Tyr Trp Asn Ser His Leu Leu Leu | | | | |
| | 210 | 215 | | 220 | |
| Gln Glu Asn | Tyr Asn Met Phe Met Glu Asp Ala Glu Thr His Gly Ile | | | | |
| 225 | 230 | 235 | | 240 | |
| Gly Glu His | Asn Phe Cys Arg Asn Pro Asp Ala Asp Glu Lys Pro Trp | | | | |
| | 245 | 250 | | 255 | |
| Cys Phe Ile | Lys Val Thr Asn Asp Lys Val Lys Trp Glu Tyr Cys Asp | | | | |
| | 260 | 265 | | 270 | |
| Val Ser Ala | Cys Ser Ala Gln Asp Val Ala Tyr Pro Glu Glu Ser Pro | | | | |
| | 275 | 280 | | 285 | |
| Thr Glu Pro | Ser Thr Lys Leu Pro Gly Phe Asp Ser Cys Gly Lys Thr | | | | |
| | 290 | 295 | | 300 | |
| Glu Ile Ala | Glu Arg Lys Ile Lys Arg Ile Tyr Gly Gly Phe Lys Ser | | | | |
| 305 | 310 | 315 | | 320 | |
| Thr Ala Gly | Lys His Pro Trp Gln Ala Ser Leu Gln Ser Ser Leu Pro | | | | |
| | 325 | 330 | | 335 | |
| Leu Thr Ile | Ser Met Pro Gln Gly His Phe Cys Gly Gly Ala Leu Ile | | | | |
| | 340 | 345 | | 350 | |
| His Pro Cys | Trp Val Leu Thr Ala Ala His Cys Thr Asp Ile Lys Thr | | | | |
| | 355 | 360 | | 365 | |
| Arg His Leu | Lys Val Val Leu Gly Asp Gln Asp Leu Lys Lys Glu Glu | | | | |
| | 370 | 375 | | 380 | |
| Phe His Glu | Gln Ser Phe Arg Val Glu Lys Ile Phe Lys Tyr Ser His | | | | |
| 385 | 390 | 395 | | 400 | |
| Tyr Asn Glu | Arg Asp Glu Ile Pro His Asn Asp Ile Ala Leu Leu Lys | | | | |
| | 405 | 410 | | 415 | |
| Leu Lys Pro | Val Asp Gly His Cys Ala Leu Glu Ser Lys Tyr Val Lys | | | | |
| | 420 | 425 | | 430 | |
| Thr Val Cys | Leu Pro Asp Gly Ser Phe Pro Ser Gly Ser Glu Cys His | | | | |
| | 435 | 440 | | 445 | |
| Ile Ser Gly | Trp Gly Val Thr Glu Thr Gly Lys Gly Ser Arg Gln Leu | | | | |
| | 450 | 455 | | 460 | |
| Leu Asp Ala | Lys Val Lys Leu Ile Ala Asn Thr Leu Cys Asn Ser Arg | | | | |
| 465 | 470 | 475 | | 480 | |
| Gln Leu Tyr | Asp His Met Ile Asp Asp Ser Met Ile Cys Ala Gly Asn | | | | |
| | 485 | 490 | | 495 | |
| Leu Gln Lys | Pro Gly Gln Asp Thr Cys Gln Gly Asp Ser Gly Gly Pro | | | | |
| | 500 | 505 | | 510 | |
| Leu Thr Cys | Glu Lys Asp Gly Thr Tyr Tyr Val Tyr Gly Ile Val Ser | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 515 | | 520 | | 525 | | | | | | | | | | |
| Trp | Gly | Leu | Glu | Cys | Gly | Lys | Arg | Pro | Gly | Val | Tyr | Thr | Gln | Val | Thr |
| | 530 | | | | 535 | | | | 540 | | | | | | |
| Lys | Phe | Leu | Asn | Trp | Ile | Lys | Ala | Thr | Ile | Lys | Ser | Glu | Ser | Gly | Phe |
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 <212> DNA
 <213> Homo sapiens

<400> 4497
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<210> 4498
 <211> 280
 <212> PRT
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<400> 4498
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 35 40 45
 Pro Gly Asn Pro Val Gln Gly Gln Cys Gly Glu Glu Glu Asp Ser Leu

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Trp Pro Leu Ser Ala Arg Arg Glu Lys Gly Leu Asn Gln Glu Pro Gln
      85              90              95
Gly Arg Gly Leu Ala Leu Gln Lys Met Gly Gln Glu Glu Glu Ser Pro
      100              105              110
Pro Arg Glu Glu Arg Pro Gln Gln Ser Pro Lys Ala Ser Pro Gly Leu
      115              120              125
Leu Ala Ala Ala Leu Gln Gln Ser Gln Glu Leu Ala Lys Leu Gly Thr
      130              135              140
Ser Phe Ala Gln Asn Gly Phe Tyr His Glu Ala Val Val Leu Phe Thr
145              150              155              160
Gln Ala Leu Lys Leu Asn Pro Gln Asp His Arg Leu Phe Gly Asn Arg
      165              170              175
Ser Phe Cys His Glu Arg Leu Gly Gln Pro Ala Trp Ala Leu Ala Asp
      180              185              190
Ala Gln Val Ala Leu Thr Leu Arg Pro Gly Trp Pro Arg Gly Leu Phe
      195              200              205
Arg Leu Gly Lys Ala Leu Met Gly Leu Gln Arg Phe Arg Glu Ala Ala
      210              215              220
Ala Val Phe Gln Glu Thr Leu Arg Gly Gly Ser Gln Pro Asp Ala Ala
225              230              235              240
Arg Glu Leu Arg Ser Cys Leu Leu His Leu Thr Leu Gln Gly Gln Arg
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<211> 562

<212> DNA

<213> Homo sapiens

<400> 4499

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<210> 4500

<211> 91

<212> PRT

<213> Homo sapiens

<400> 4500

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| Xaa | Ile | Thr | Asp | Tyr | Ala | Val | Gln | Pro | His | Val | Gly | Thr | Gly | Ala | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Val | Thr | Pro | Ala | His | Ser | Pro | Ala | Asp | Ala | Glu | Met | Gly | Ala | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| His | Gly | Leu | Ser | Pro | Leu | Asn | Val | Ile | Ala | Glu | Asp | Gly | Thr | Met | Thr |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Ser | Leu | Cys | Gly | Asp | Trp | Leu | Gln | Gly | Leu | His | Arg | Phe | Val | Ala | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Lys | Ile | Met | Ser | Val | Leu | Ser | Glu | Arg | Gly | Leu | Phe | Arg | Gly | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gln | Asn | His | Pro | Met | Val | Leu | Pro | Ile | Cys | Arg | | | | | |
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<210> 4501

<211> 1866

<212> DNA

<213> Homo sapiens

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<210> 4502

<211> 267

<212> PRT

<213> Homo sapiens

<400> 4502

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Arg | Met | Ala | Ala | Gln | Gly | Ala | Pro | Arg | Phe | Leu | Leu | Thr | Phe | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Asp | Glu | Thr | Ile | Val | Asp | Glu | Asn | Ser | Asp | Asp | Ser | Ile | Val | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Ala | Pro | Gly | Gln | Arg | Leu | Pro | Glu | Ser | Leu | Arg | Ala | Thr | Tyr | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Gly | Phe | Tyr | Asn | Glu | Tyr | Met | Gln | Arg | Val | Phe | Lys | Tyr | Leu | Gly |

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Glu Gln Gly Val Arg Pro Arg Asp Leu Ser Ala Ile Tyr Glu Ala Ile
          85          90          95
Pro Leu Ser Pro Gly Met Ser Asp Leu Leu Gln Phe Val Ala Lys Gln
          100          105          110
Gly Ala Cys Phe Glu Val Ile Leu Ile Ser Asp Ala Asn Thr Phe Gly
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Val Glu Ser Ser Leu Arg Ala Ala Gly His His Ser Leu Phe Arg Arg
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Arg Pro Phe His Thr His Ser Cys Ala Arg Cys Pro Ala Asn Met Cys
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Lys His Lys Val Leu Ser Asp Tyr Leu Arg Glu Arg Ala His Asp Gly
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Val His Phe Glu Arg Leu Phe Tyr Val Gly Asp Gly Ala Asn Asp Phe
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Cys Pro Met Gly Leu Leu Ala Gly Gly Asp Val Ala Phe Pro Arg Arg
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Gly Tyr Pro Met His Arg Leu Ile Gln Glu Ala Gln Lys Ala Glu Pro
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<210> 4503

<211> 1983

<212> DNA

<213> Homo sapiens

<400> 4503

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<213> Homo sapiens

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Thr Thr Val Ile Gln Asn Val Asn Lys Ala Gln Val Lys Ile Arg Ala
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Glu Gln Leu Ala Lys Leu Lys Arg Asn Tyr Ala Lys Ala Val Glu Leu
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Tyr Val Ile Ile Pro Arg Ile Glu Arg Thr Leu Ala Tyr Ile Ile Thr
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<210> 4505

<211> 379

<212> DNA

<213> Homo sapiens

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<210> 4506

<211> 121

<212> PRT

<213> Homo sapiens

<400> 4506

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Arg Arg Gln Trp Trp Leu Trp Leu Ser Ser Leu Ser Asn Gln Ile His
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Pro Thr Pro Ser Ala Gln Gly Gln Ala Ala Leu Arg Gln Thr Cys Pro
          50           55           60
His Leu Arg Glu Ser Gly Pro Leu Ser Val Arg His Val Ala Leu Leu
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Ala Leu Glu Thr Ala Ser His Pro Ser Gly Pro His Thr Asn Gln Ala
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Pro Ser Pro Ala Thr Ser Pro Lys Cys Pro Ser Glu Pro Ala Thr Pro
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<210> 4507

<211> 3664

<212> DNA

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<400> 4507

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<211> 172

<212> PRT

<213> Homo sapiens

<400> 4508

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| Asn | Glu | Phe | Arg | Pro | Leu | Asp | Glu | Arg | Ile | Asp | Glu | Phe | His | Pro | Lys |
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| His | Asp | Leu | Arg | Asn | Ile | Phe | Gln | Arg | Phe | Gly | Glu | Ile | Val | Asp | Ile |
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| 1810 | 1815 | 1820 |
| Gly Glu Pro Glu Asn Phe Pro Ala Pro Pro Pro Tyr Pro Gly Glu Ser | | |
| 1825 | 1830 | 1835 |
| Gln Thr Asp Leu Gln Pro Pro Ala Gly Ala Gln Ala Leu Gln Pro Ser | | 1840 |
| | 1845 | 1850 |
| Glu Glu Gly Met Glu Thr Asp Glu Ala Val Ser Gly Ile Leu Glu Thr | | 1855 |
| | 1860 | 1865 |
| Glu Ala Ala Thr Glu Ser Ser Arg Pro Pro Val Asn Ala Pro Asp Pro | | 1870 |
| | 1875 | 1880 |
| Ser Ala Gly Pro Thr Asp Thr Lys Glu Ala Arg Gly Asn Ser Ser Glu | | 1885 |
| | 1890 | 1895 |
| Thr Ser His Ser Val Pro Glu Ala Lys Gly Ser Lys Glu Val Glu Val | | 1900 |
| 1905 | 1910 | 1915 |
| Thr Leu Val Arg Lys Asp Lys Gly Arg Gln Lys Thr Thr Arg Ser Arg | | 1920 |
| | 1925 | 1930 |
| Arg Lys Arg Asn Thr Asn Lys Lys Val Val Ala Pro Val Glu Ser His | | 1935 |
| | 1940 | 1945 |
| Val Pro Glu Ser Asn Gln Ala Gln Gly Glu Ser Pro Ala Ala Asn Glu | | 1950 |
| | 1955 | 1960 |
| Gly Thr Thr Val Gln His Pro Glu Ala Pro Gln Glu Glu Lys Gln Ser | | 1965 |
| | 1970 | 1975 |
| Glu Lys Pro His Ser Thr Pro Pro Gln Ser Cys Thr Ser Asp Leu Ser | | 1980 |
| 1985 | 1990 | 1995 |
| Lys Ile Pro Ser Thr Glu Asn Ser Ser Gln Glu Ile Ser Val Glu Glu | | 2000 |
| | 2005 | 2010 |
| Arg Thr Pro Thr Lys Ala Ser Val Pro Pro Asp Leu Pro Pro Pro Pro | | 2015 |
| | 2020 | 2025 |
| Gln Pro Ala Pro Val Asp Glu Glu Pro Gln Ala Arg Phe Arg Val His | | 2030 |
| | 2035 | 2040 |
| Ser Ile Ile Glu Ser Asp Pro Val Thr Pro Pro Ser Asp Pro Ser Ile | | 2045 |
| | 2050 | 2055 |
| Pro Ile Pro Thr Leu Pro Ser Val Thr Ala Ala Lys Leu Ser Pro Pro | | 2060 |
| 2065 | 2070 | 2075 |
| Val Ala Ser Gly Gly Ile Pro His Gln Ser Pro Pro Thr Lys Val Thr | | 2080 |
| | 2085 | 2090 |
| Glu Trp Ile Thr Arg Gln Glu Glu Pro Arg Ala Gln Ser Thr Pro Ser | | 2095 |
| | 2100 | 2105 |
| Pro Ala Leu Pro Pro Asp Thr Lys Ala Ser Asp Val Asp Thr Ser Ser | | 2110 |
| | 2115 | 2120 |
| Ser Thr Leu Arg Lys Ile Leu Met Asp Pro Lys Tyr Val Ser Ala Thr | | 2125 |
| | 2130 | 2135 |
| Ser Val Thr Ser Thr Ser Val Thr Thr Ala Ile Ala Glu Pro Val Ser | | 2140 |
| 2145 | 2150 | 2155 |
| Ala Ala Pro Cys Leu His Glu Ala Pro Pro Pro Pro Val Asp Ser Lys | | 2160 |
| 2165 | 2170 | 2175 |
| Lys Pro Leu Glu Glu Lys Thr Ala Pro Pro Val Thr Asn Asn Ser Glu | | 2180 |
| | 2185 | 2190 |
| Ile Gln Ala Ser Glu Val Leu Val Ala Ala Asp Lys Glu Lys Val Ala | | 2195 |
| | 2200 | 2205 |
| Pro Val Ile Ala Pro Lys Ile Thr Ser Val Ile Ser Arg Met Pro Val | | 2210 |
| 2210 | 2215 | 2220 |
| Ser Ile Asp Leu Glu Asn Ser Gln Lys Ile Thr Leu Ala Lys Pro Ala | | |

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 Val Thr Thr Leu Lys Ser Leu Val Ser Thr Pro Ala Gly Pro Val Asn
 2275 2280 2285
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 2595 2600 2605
 Thr Val Ser His Leu Ala Ala Lys Leu Asp Ala His Ser Pro Arg
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 Pro Ser Gly Pro Gly Pro Ser Ser Phe Pro Arg Ala Ser His Pro Ser
 2625 2630 2635 2640
 Ser Thr Ala Ser Thr Ala Leu Ser Thr Asn Ala Thr Val Met Leu Ala
 2645 2650 2655
 Ala Gly Ile Pro Val Pro Gln Phe Ile Ser Ser Ile His Pro Glu Gln

| | | | | | |
|-----------------|---|---------------------|-----------------|--|------|
| | 2660 | | 2665 | | 2670 |
| Ser Val | Ile Met Pro Pro His | Ser Ile Thr Gln Thr | Val Ser Leu Ser | | |
| | 2675 | 2680 | 2685 | | |
| His Leu Ser | Gln Gly Glu Val Arg Met Asn Thr | Pro Thr Leu Pro Ser | | | |
| | 2690 | 2695 | 2700 | | |
| Ile Thr Tyr Ser | Ile Arg Pro Glu Ala Leu His Ser | Pro Arg Ala Pro | | | |
| 2705 | 2710 | 2715 | 2720 | | |
| Leu Gln Pro | Gln Gln Ile Glu Val Arg Ala Pro Gln Arg Ala Ser Thr | | | | |
| | 2725 | 2730 | 2735 | | |
| Pro Gln Pro | Ala Pro Ala Gly Val Pro Ala Leu Ala Ser Gln His Pro | | | | |
| | 2740 | 2745 | 2750 | | |
| Pro Glu Glu | Glu Val His Tyr His Leu Pro Val Ala Arg Ala Thr Ala | | | | |
| | 2755 | 2760 | 2765 | | |
| Pro Val Gln Ser | Glu Val Leu Val Met Gln Ser Glu Tyr Arg Leu His | | | | |
| | 2770 | 2775 | 2780 | | |
| Pro Tyr Thr Val | Pro Arg Asp Val Arg Ile Met Val His Pro His Val | | | | |
| 2785 | 2790 | 2795 | 2800 | | |
| Thr Ala Val Ser | Glu Gln Pro Arg Ala Ala Asp Gly Val Val Lys Val | | | | |
| | 2805 | 2810 | 2815 | | |
| Pro Pro Ala Ser | Lys Ala Pro Gln Gln Pro Gly Lys Glu Ala Ala Lys | | | | |
| | 2820 | 2825 | 2830 | | |
| Thr Pro Asp Ala | Lys Ala Ala Pro Thr Pro Thr Pro Ala Pro Val Pro | | | | |
| | 2835 | 2840 | 2845 | | |
| Val Pro Val Pro | Leu Pro Ala Pro Ala Pro Ala Pro His Gly Glu Ala | | | | |
| | 2850 | 2855 | 2860 | | |
| Arg Ile Leu Thr | Val Thr Pro Ser Asn Gln Leu Gln Gly Leu Pro Leu | | | | |
| 2865 | 2870 | 2875 | 2880 | | |
| Thr Pro Pro Val | Val Val Thr His Gly Val Gln Ile Val His Ser Ser | | | | |
| | 2885 | 2890 | 2895 | | |
| Gly Glu Leu Phe | Gln Glu Tyr Arg Tyr Gly Asp Ile Arg Thr Tyr His | | | | |
| | 2900 | 2905 | 2910 | | |
| Pro Pro Ala Gln | Leu Thr His Thr Gln Phe Pro Ala Ala Ser Ser Val | | | | |
| | 2915 | 2920 | 2925 | | |
| Gly Leu Pro Ser | Arg Thr Lys Thr Ala Ala Gln Gly Pro Pro Pro Glu | | | | |
| | 2930 | 2935 | 2940 | | |
| Gly Glu Pro Leu | Gln Pro Pro Gln Pro Val Gln Ser Thr Gln Pro Ala | | | | |
| 2945 | 2950 | 2955 | 2960 | | |
| Gln Pro Ala Pro | Pro Cys Pro Pro Ser Gln Leu Gly Gln Pro Gly Gln | | | | |
| | 2965 | 2970 | 2975 | | |
| Pro Pro Ser Ser | Lys Met Pro Gln Val Ser Gln Glu Ala Lys Gly Thr | | | | |
| | 2980 | 2985 | 2990 | | |
| Gln Thr Gly Val | Glu Gln Pro Arg Leu Pro Ala Gly Pro Ala Asn Arg | | | | |
| | 2995 | 3000 | 3005 | | |
| Pro Pro Glu Pro | His Thr Gln Val Gln Arg Ala Gln Ala Glu Thr Gly | | | | |
| | 3010 | 3015 | 3020 | | |
| Pro Thr Ser Phe | Pro Ser Pro Val Ser Val Ser Met Lys Pro Asp Leu | | | | |
| 3025 | 3030 | 3035 | 3040 | | |
| Pro Val Ser Leu | Pro Thr Gln Thr Ala Pro Lys Gln Pro Leu Phe Val | | | | |
| | 3045 | 3050 | 3055 | | |
| Pro Thr Thr Ser | Gly Pro Ser Thr Pro Pro Gly Leu Val Leu Pro His | | | | |
| | 3060 | 3065 | 3070 | | |
| Thr Glu Phe Gln | Pro Ala Pro Lys Gln Asp Ser Ser Pro His Leu Thr | | | | |
| | 3075 | 3080 | 3085 | | |
| Ser Gln Arg Pro | Val Asp Met Val Gln Leu Leu Lys Lys Tyr Pro Ile | | | | |

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 Arg Asp Gln Glu Asp Val Val Ser Gln Thr Glu Ser Leu Lys Ala Ala
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 Pro Cys Glu Phe Ser Glu Ser His Leu Ser Arg Leu Ala Pro Asp Leu
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<212> DNA

<213> Homo sapiens

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 720

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 780
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 840
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<211> 244

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<213> Homo sapiens

<400> 4512

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| Ala | Gly | Arg | Thr | Arg | Ser | Leu | Pro | Ile | Thr | Ile | Glu | Met | Leu | Lys | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Asp | Asp | Glu | Glu | Glu | Glu | Glu | Gln | Thr | Cys | Pro | Ser | Thr | Phe | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Glu | Met | Thr | Pro | Thr | Ser | Val | Ile | Pro | Lys | Leu | Pro | Gln | Cys | Leu |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Arg | Glu | Glu | Glu | Glu | Lys | Glu | Ser | Asp | Ser | Asp | Ser | Glu | Gly | Pro | Ile |
| | 50 | | | | 55 | | | | 60 | | | | | | |
| Gln | Tyr | Arg | Asp | Glu | Glu | Asp | Glu | Asp | Glu | Ser | Tyr | Gln | Ser | Ala | Leu |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Ala | Asn | Lys | Val | Lys | Arg | Lys | Asp | Thr | Leu | Ala | Met | Lys | Leu | Asn | His |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Arg | Pro | Ser | Glu | Pro | Glu | Leu | Asn | Leu | Asn | Ser | Trp | Pro | Cys | Lys | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Glu | Glu | Trp | Asn | Glu | Ile | Arg | His | Gln | Ile | Gly | Asn | Thr | Leu | Ile |
| | | 115 | | | | 120 | | | | | 125 | | | | |
| Arg | Arg | Leu | Ser | Gln | Arg | Pro | Thr | Pro | Glu | Glu | Leu | Glu | Gln | Arg | Asn |
| | 130 | | | | 135 | | | | 140 | | | | | | |
| Ile | Leu | Gln | Pro | Lys | Asn | Glu | Ala | Asp | Arg | Gln | Ala | Glu | Lys | Arg | Glu |
| 145 | | | | 150 | | | | 155 | | | | | 160 | | |
| Ile | Lys | Arg | Arg | Leu | Thr | Arg | Lys | Leu | Ser | Gln | Arg | Pro | Thr | Val | Ala |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Glu | Leu | Leu | Ala | Arg | Lys | Ile | Leu | Arg | Phe | Asn | Glu | Tyr | Val | Glu | Val |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Thr | Asp | Ala | Gln | Asp | Tyr | Asp | Arg | Arg | Ala | Asp | Lys | Pro | Trp | Thr | Lys |


```

          195                200                205
Leu Thr Pro Ala Asp Lys Ala Ala Ile Arg Lys Glu Leu Asn Glu Phe
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225                230                235                240
Tyr His Arg Pro

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 <213> Homo sapiens

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 300
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 <212> PRT
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 35 40 45
 Ile Met Lys Met Ile Ser Ala Thr Glu Gly Pro Val Lys Ala Arg Glu
 50 55 60
 Val Gln Lys Phe Thr Glu Asp Leu Val Gly Ser Val Val His Val Leu
 65 70 75 80
 Ser His Arg Gln Glu Leu Arg Gly Trp Thr Gly Lys Glu Ala Pro Gly
 85 90 95
 Pro Asn Pro Arg Val Gln Val Leu Thr Ala Gln Leu Leu Ser Asp Met

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 100 | | 105 | | 110 | | | | |
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<211> 901

<212> PRT

<213> Homo sapiens

<400> 4516

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| 1 | | | | 5 | | | | 10 | | | | 15 | | | |
| Pro | Gly | Ser | Ala | Gly | Gly | His | Pro | Gln | Pro | Cys | Gly | Val | Leu | Ala | Arg |
| | | | 20 | | | | 25 | | | | | 30 | | | |
| Leu | Gly | Gly | Ser | Val | Arg | Leu | Gly | Ala | Leu | Leu | Pro | Arg | Ala | Pro | Leu |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Ala | Arg | Ala | Arg | Ala | Arg | Ala | Ala | Leu | Ala | Arg | Ala | Ala | Leu | Ala | Pro |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Arg | Leu | Pro | His | Asn | Leu | Ser | Leu | Glu | Leu | Val | Val | Ala | Ala | Pro | Pro |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ala | Arg | Asp | Pro | Ala | Ser | Leu | Thr | Arg | Gly | Leu | Cys | Gln | Ala | Leu | Val |
| | | | 85 | | | | | | 90 | | | | 95 | | |
| Pro | Pro | Gly | Val | Ala | Ala | Leu | Leu | Ala | Phe | Pro | Glu | Ala | Arg | Pro | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Leu | Gln | Leu | His | Phe | Leu | Ala | Ala | Ala | Thr | Glu | Thr | Pro | Val | Leu |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Ser | Leu | Leu | Arg | Arg | Glu | Ala | Arg | Ala | Pro | Leu | Gly | Ala | Pro | Asn | Pro |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Phe | His | Leu | Gln | Leu | His | Trp | Ala | Ser | Pro | Leu | Glu | Thr | Leu | Leu | Asp |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Val | Leu | Val | Ala | Val | Leu | Gln | Ala | His | Ala | Trp | Glu | Asp | Val | Gly | Leu |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Ala | Leu | Cys | Arg | Thr | Gln | Asp | Pro | Gly | Gly | Leu | Val | Ala | Leu | Trp | Thr |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Ser | Arg | Ala | Gly | Arg | Pro | Pro | Gln | Leu | Val | Leu | Asp | Leu | Ser | Arg | Arg |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Asp | Thr | Gly | Asp | Ala | Gly | Leu | Arg | Ala | Arg | Leu | Ala | Pro | Met | Ala | Ala |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Pro | Val | Gly | Gly | Glu | Ala | Pro | Val | Pro | Ala | Ala | Val | Leu | Leu | Gly | Cys |
| 225 | | | | 230 | | | | | 235 | | | | | 240 | |
| Asp | Ile | Ala | Arg | Ala | Arg | Arg | Val | Leu | Glu | Ala | Val | Pro | Pro | Gly | Pro |
| | | | 245 | | | | | 250 | | | | | | 255 | |
| His | Trp | Leu | Leu | Gly | Thr | Pro | Leu | Pro | Pro | Lys | Ala | Leu | Pro | Thr | Ala |
| | | 260 | | | | | 265 | | | | | | 270 | | |
| Gly | Leu | Pro | Pro | Gly | Leu | Leu | Ala | Leu | Gly | Glu | Val | Ala | Arg | Pro | Pro |
| | 275 | | | | | 280 | | | | | | 285 | | | |
| Leu | Glu | Ala | Ala | Ile | His | Asp | Ile | Val | Gln | Leu | Val | Ala | Arg | Ala | Leu |

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      290              295              300
Gly Ser Ala Ala Gln Val Gln Pro Lys Arg Ala Leu Leu Pro Ala Pro
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Val Asn Cys Gly Asp Leu Gln Pro Ala Gly Pro Glu Ser Pro Gly Arg
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Phe Leu Ala Arg Phe Leu Ala Asn Thr Ser Phe Gln Gly Arg Thr Gly
      340              345              350
Pro Val Trp Val Thr Gly Ser Ser Gln Val His Met Ser Arg His Phe
      355              360              365
Lys Val Trp Ser Leu Arg Arg Asp Pro Arg Gly Ala Pro Ala Trp Ala
      370              375              380
Thr Val Gly Ser Trp Arg Tyr Gly Gln Leu Asp Leu Glu Pro Gly Gly
385              390              395              400
Ala Ser Ala Trp Pro Pro Pro Pro Gln Gly Ala Gln Val Arg Pro Lys
      405              410              415
Leu Arg Val Val Thr Leu Leu Glu His Pro Phe Val Phe Ala Arg Asp
      420              425              430
Pro Asp Glu Asp Gly Gln Cys Pro Ala Gly Gln Leu Cys Leu Asp Pro
      435              440              445
Gly Thr Asn Asp Ser Ala Thr Leu Asp Ala Leu Phe Ala Ala Leu Ala
      450              455              460
Asn Gly Ser Ala Pro Arg Ala Leu Arg Lys Cys Cys Tyr Gly Tyr Cys
465              470              475              480
Ile Asp Leu Leu Glu Arg Leu Ala Glu Asp Thr Pro Phe Asp Phe Glu
      485              490              495
Leu Tyr Leu Val Gly Asp Gly Lys Tyr Gly Ala Leu Arg Asp Gly Arg
      500              505              510
Trp Thr Gly Leu Val Gly Asp Leu Leu Ala Gly Arg Ala His Met Ala
      515              520              525
Val Thr Ser Phe Ser Ile Asn Ser Ala Arg Ser Gln Val Val Asp Phe
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Thr Ser Pro Phe Phe Ser Thr Ser Leu Gly Ile Met Val Arg Ala Arg
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Asp Thr Ala Ser Pro Ile Gly Ala Phe Met Trp Pro Leu His Trp Ser
      565              570              575
Thr Trp Leu Gly Val Phe Ala Ala Leu His Leu Thr Ala Leu Phe Leu
      580              585              590
Thr Val Tyr Glu Trp Arg Ser Pro Tyr Gly Leu Thr Pro Arg Gly Arg
      595              600              605
Asn Arg Ser Thr Val Phe Ser Tyr Ser Ser Ala Leu Asn Leu Cys Tyr
      610              615              620
Ala Ile Leu Phe Arg Arg Thr Val Ser Ser Lys Thr Pro Lys Cys Pro
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Thr Gly Arg Leu Leu Met Asn Leu Trp Ala Ile Phe Cys Leu Leu Val
      645              650              655
Leu Ser Ser Tyr Thr Ala Asn Leu Ala Ala Val Met Val Gly Asp Lys
      660              665              670
Thr Phe Glu Glu Leu Ser Gly Ile His Asp Pro Lys Leu His His Pro
      675              680              685
Ala Gln Gly Phe Arg Phe Gly Thr Val Trp Glu Ser Ala Glu Ala
      690              695              700
Tyr Ile Lys Lys Ser Phe Pro Asp Met His Ala His Met Arg Arg His
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Ser Ala Pro Thr Thr Pro Arg Gly Val Ala Met Leu Thr Ser Asp Pro

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<210> 4517
<211> 2275
<212> DNA
<213> Homo sapiens
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720

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2100
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<210> 4518

<211> 650

<212> PRT

<213> Homo sapiens

<400> 4518

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Val Ser Ser Leu Leu Leu Gln Glu Glu Glu Pro Leu Ala Gly Gly Lys
      35           40           45
Pro Gly Ala Asp Gly Gly Ser Leu Glu Ala Val Arg Leu Gly Pro Ser
      50           55           60
Ser Gly Leu Leu Val Asp Trp Leu Glu Met Leu Asp Pro Glu Val Val
      65           70           75           80
Ser Ser Cys Pro Asp Leu Gln Leu Arg Leu Leu Phe Ser Arg Arg Lys
      85           90           95
Gly Lys Gly Gln Ala Gln Val Pro Ser Phe Arg Pro Tyr Leu Leu Thr
      100           105           110
Leu Phe Thr His Gln Ser Ser Trp Pro Thr Leu His Gln Cys Ile Arg
      115           120           125
Val Leu Leu Gly Lys Ser Arg Glu Gln Arg Phe Asp Pro Ser Ala Ser
      130           135           140
Leu Asp Phe Leu Trp Ala Cys Ile His Val Pro Arg Ile Trp Gln Gly
      145           150           155           160
Arg Asp Gln Arg Thr Pro Gln Lys Arg Arg Glu Glu Leu Val Leu Arg
      165           170           175
Val Gln Gly Pro Glu Leu Ile Ser Leu Val Glu Leu Ile Leu Ala Glu
      180           185           190
Ala Glu Thr Arg Ser Gln Asp Gly Asp Thr Ala Ala Cys Ser Leu Ile
      195           200           205
Gln Ala Arg Leu Pro Leu Leu Leu Ser Cys Cys Cys Gly Asp Asp Glu
      210           215           220
Ser Val Arg Lys Val Thr Glu His Leu Ser Gly Cys Ile Gln Gln Trp
      225           230           235           240
Gly Asp Ser Val Leu Gly Arg Arg Cys Arg Asp Leu Leu Leu Gln Leu
      245           250           255
Tyr Leu Gln Arg Pro Glu Leu Arg Val Pro Val Pro Glu Val Leu Leu
      260           265           270
His Ser Glu Gly Ala Ala Ser Ser Ser Val Cys Lys Leu Asp Gly Leu
      275           280           285
Ile His Arg Phe Ile Thr Leu Leu Ala Asp Thr Ser Asp Ser Arg Ala
      290           295           300
Leu Glu Asn Arg Gly Ala Asp Ala Ser Met Ala Cys Arg Lys Leu Ala
      305           310           315           320
Val Ala His Pro Leu Leu Leu Leu Arg His Leu Pro Met Ile Ala Ala
      325           330           335
Leu Leu His Gly Arg Thr His Leu Asn Phe Gln Glu Phe Arg Gln Gln
      340           345           350
Asn His Leu Ser Cys Phe Leu His Val Leu Gly Leu Leu Glu Leu Leu
      355           360           365
Gln Pro His Val Phe Arg Ser Glu His Gln Gly Ala Leu Trp Asp Cys
      370           375           380
Leu Leu Ser Phe Ile Arg Leu Leu Leu Asn Tyr Arg Lys Ser Ser Arg

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385          390          395          400
His Leu Ala Ala Phe Ile Asn Lys Phe Val Gln Phe Ile His Lys Tyr
          405          410          415
Ile Thr Tyr Asn Ala Pro Ala Ala Ile Ser Phe Leu Gln Lys His Ala
          420          425          430
Asp Pro Leu His Asp Leu Ser Phe Asp Asn Ser Asp Leu Val Met Leu
          435          440          445
Lys Ser Leu Leu Ala Gly Leu Ser Leu Pro Ser Arg Asp Asp Arg Thr
          450          455          460
Asp Arg Gly Leu Asp Glu Glu Gly Glu Glu Glu Ser Ser Ala Gly Ser
465          470          475          480
Leu Pro Leu Val Ser Val Ser Leu Phe Thr Pro Leu Thr Ala Ala Glu
          485          490          495
Met Ala Pro Tyr Met Lys Arg Leu Ser Arg Gly Gln Thr Val Glu Gly
          500          505          510
Glu Ser Gly Pro Ala Ser Pro Thr Pro Asp Leu Leu Glu Val Leu Ser
          515          520          525
Asp Ile Asp Glu Met Ser Arg Arg Arg Pro Glu Ile Leu Ser Phe Phe
          530          535          540
Ser Thr Asn Leu Gln Arg Leu Met Ser Ser Ala Glu Glu Cys Cys Arg
545          550          555          560
Asn Leu Ala Phe Ser Leu Ala Leu Arg Ser Met Gln Asn Ser Pro Ser
          565          570          575
Ile Ala Ala Ala Phe Leu Pro Thr Phe Met Tyr Cys Leu Gly Ser Gln
          580          585          590
Asp Phe Glu Val Val Gln Thr Ala Leu Arg Asn Leu Pro Glu Tyr Ala
          595          600          605
Leu Leu Cys Gln Glu His Ala Ala Val Leu Leu His Arg Ala Phe Leu
          610          615          620
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<210> 4519

<211> 2326

<212> DNA

<213> Homo sapiens

<400> 4519

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240
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420

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<210> 4520

<211> 617

<212> PRT

<213> Homo sapiens

<400> 4520

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| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Thr | Arg | Ala | Val | Trp | Cys | Ala | His | Val | Glu | Gly | Trp | Thr | Thr | Leu | His |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Thr | Asn | Cys | Lys | Gln | Ala | Glu | Arg | Pro | Asn | Asn | Gln | Gln | Asn | Cys | Phe |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Lys | Val | Cys | Asp | Trp | His | Lys | Glu | Leu | Tyr | Asp | Trp | Arg | Leu | Gly | Pro |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Trp | Asn | Gln | Cys | Gln | Pro | Val | Ile | Ser | Lys | Ser | Leu | Glu | Lys | Pro | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Glu | Cys | Ile | Lys | Gly | Glu | Glu | Gly | Ile | Gln | Val | Arg | Glu | Ile | Ala | Cys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ile | Gln | Lys | Asp | Lys | Asp | Ile | Pro | Ala | Glu | Asp | Ile | Ile | Cys | Glu | Tyr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Phe | Glu | Pro | Lys | Pro | Leu | Leu | Glu | Gln | Ala | Cys | Leu | Ile | Pro | Cys | Gln |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Gln | Asp | Cys | Ile | Val | Ser | Glu | Phe | Ser | Ala | Trp | Ser | Glu | Cys | Ser | Lys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Thr | Cys | Gly | Ser | Gly | Leu | Gln | His | Arg | Thr | Arg | His | Val | Val | Ala | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Pro | Gln | Phe | Gly | Gly | Ser | Gly | Cys | Pro | Asn | Leu | Thr | Glu | Phe | Gln | Val |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Cys | Gln | Ser | Ser | Pro | Cys | Glu | Ala | Glu | Glu | Leu | Arg | Tyr | Ser | Leu | His |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Val | Gly | Pro | Trp | Ser | Thr | Cys | Ser | Met | Pro | His | Ser | Arg | Gln | Val | Arg |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Gln | Ala | Arg | Arg | Arg | Gly | Lys | Asn | Lys | Glu | Arg | Glu | Lys | Asp | Arg | Ser |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Lys | Gly | Val | Lys | Asp | Pro | Glu | Ala | Arg | Glu | Leu | Ile | Lys | Lys | Lys | Arg |
| 225 | | | | 230 | | | | | | 235 | | | | 240 | |
| Asn | Arg | Asn | Arg | Gln | Asn | Arg | Gln | Glu | Asn | Lys | Tyr | Trp | Asp | Ile | Gln |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Ile | Gly | Tyr | Gln | Thr | Arg | Glu | Val | Met | Cys | Ile | Asn | Lys | Thr | Gly | Lys |
| | 260 | | | | | | 265 | | | | | | 270 | | |
| Ala | Ala | Asp | Leu | Ser | Phe | Cys | Gln | Glu | Lys | Leu | Pro | Met | Thr | Phe | |
| | 275 | | | | | 280 | | | | | 285 | | | | |
| Gln | Ser | Cys | Val | Ile | Thr | Lys | Glu | Cys | Gln | Val | Ser | Glu | Trp | Ser | Glu |

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Lys Glu Cys Pro Glu Phe Glu Glu Lys Glu Pro Cys Leu Ser Gln Gly
      340              345              350
Asp Gly Val Val Pro Cys Ala Thr Tyr Gly Trp Arg Thr Thr Glu Trp
      355              360              365
Thr Glu Cys Arg Val Asp Pro Leu Leu Ser Gln Gln Asp Lys Arg Arg
      370              375              380
Gly Asn Gln Thr Ala Leu Cys Gly Gly Gly Ile Gln Thr Arg Glu Val
385              390              395              400
Tyr Cys Val Gln Ala Asn Glu Asn Leu Leu Ser Gln Leu Ser Thr His
      405              410              415
Lys Asn Lys Glu Ala Ser Lys Pro Met Asp Leu Lys Leu Cys Thr Gly
      420              425              430
Pro Ile Pro Asn Thr Thr Gln Leu Cys His Ile Pro Cys Pro Thr Glu
      435              440              445
Cys Glu Val Ser Pro Trp Ser Ala Trp Gly Pro Cys Thr Tyr Glu Asn
      450              455              460
Cys Asn Asp Pro Gln Gly Lys Lys Gly Phe Lys Leu Arg Lys Arg Arg
465              470              475              480
Ile Thr Asn Glu Pro Thr Gly Gly Ser Gly Leu Thr Gly Asn Cys Pro
      485              490              495
His Leu Leu Glu Ala Ile Pro Cys Glu Glu Pro Ala Cys Tyr Asp Trp
      500              505              510
Lys Ala Val Arg Leu Gly Asp Cys Glu Pro Asp Asn Gly Lys Glu Cys
      515              520              525
Gly Pro Gly Thr Gln Val Gln Glu Val Val Cys Ile Asn Ser Asp Gly
      530              535              540
Glu Glu Val Asp Arg Gln Leu Cys Arg Asp Ala Ile Phe Pro Ile Pro
545              550              555              560
Val Ala Cys Asp Ala Pro Cys Pro Lys Asp Cys Val Leu Ser Thr Trp
      565              570              575
Ser Thr Trp Ser Ser Cys Ser His Thr Cys Ser Gly Lys Thr Thr Glu
      580              585              590
Gly Lys Gln Ile Arg Ala Arg Ser Ile Leu Ala Tyr Ala Gly Glu Glu
      595              600              605
Gly Glu Ser Pro Ala Ser Asp Ala Ile
      610              615

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<210> 4521

<211> 1071

<212> DNA

<213> Homo sapiens

<400> 4521

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120
ttataccaat ataaacaatt actcaggaaa aaaagaaaat aaaaacttgc aagggcataa
180

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ataacttgct taccaccaa gatgcttgct ctaagaactg tgaagggatt caagaggaaa
 240
 agtacacca gagagggtc atacatgtcc tctccccctc ctctccacc accaggacac
 300
 acagaaactg cctctctttt tcagccctct cctttctcag ctgactttga gctacaaata
 360
 tcccttctct acttggagag ccccatattca ttacaggaat ttgctttgag ttttattatc
 420
 attttagtct atgtcttaga ttgggtctgct ataacaaggt gccataggct gagcggctta
 480
 aacaacaaac actcatatcc cacagttaca gaggctgaga agcctgggggt caaggtacca
 540
 gcattggtctg attctgttct ggaggctggg aaatccaaga tggaagcact ggtaggtttg
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 gtgtctggga gggcttctct ctgcttccaa gatggtgcct tgctcgtgca tcttccagag
 660
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 720
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 780
 tagcaaagac acagagagaa tataatttaa ggcaaaaagc ttcaatagga tttcaaagca
 840
 aaccttgcat actaaaaaaaa ggaaacaaaa aataaaccaa aagaaaccga aaaccatgaa
 900
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 960
 attaatatat caaacaata aagattaata agaatttgga atttgtatga aatggcaaag
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 1071

<210> 4522

<211> 189

<212> PRT

<213> Homo sapiens

<400> 4522

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Ala | Leu | Arg | Thr | Val | Lys | Gly | Phe | Lys | Arg | Lys | Ser | Thr | Pro |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | |
| Arg | Glu | Gly | Ser | Tyr | Met | Ser | Ser | Pro | Pro | Pro | Pro | Pro | Pro | Pro | Gly |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| His | Thr | Glu | Thr | Ala | Ser | Ser | Phe | Gln | Pro | Ser | Pro | Phe | Ser | Ala | Asp |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Glu | Leu | Gln | Ile | Ser | Leu | Leu | Tyr | Leu | Glu | Ser | Pro | Ile | Ser | Leu |
| | | 50 | | | | 55 | | | | 60 | | | | | |
| Gln | Glu | Phe | Ala | Leu | Ser | Phe | Ile | Ile | Ile | Leu | Val | Tyr | Val | Leu | Asp |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Trp | Ala | Ala | Ile | Thr | Arg | Cys | His | Arg | Leu | Ser | Gly | Leu | Asn | Asn | Lys |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| His | Ser | Tyr | Pro | Thr | Val | Thr | Glu | Ala | Glu | Lys | Pro | Gly | Val | Lys | Val |
| | | | 100 | | | | 105 | | | | | 110 | | | |
| Pro | Ala | Trp | Ser | Asp | Ser | Val | Leu | Glu | Ala | Gly | Lys | Ser | Lys | Met | Glu |
| | | 115 | | | | 120 | | | | | 125 | | | | |
| Ala | Leu | Val | Gly | Leu | Val | Ser | Gly | Arg | Ala | Ser | Leu | Cys | Phe | Gln | Asp |

| | | |
|---|-----|-----|
| 130 | 135 | 140 |
| Gly Ala Leu Ser Leu His Leu Pro Glu Gly Arg Asn Ala Val Ser Leu | | |
| 145 | 150 | 155 |
| Gln His Arg Arg Asn Thr Ser Glu Lys Lys Ser Ser Arg Lys Val Glu | | |
| | 165 | 170 |
| Asn Lys Glu Met Glu Tyr Ile Tyr Glu Asn Tyr Tyr Ile | | |
| | 180 | 185 |

<210> 4523

<211> 1022

<212> DNA

<213> Homo sapiens

<400> 4523

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120
cgtgccagcg aggctgtcct ctgggaggca ctacgcaaga tgggactgcg ccctgggggtg
180
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240
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300
ctgcgagccc gccatgagac cagcaagatg agggtcctga gattcatcgc ccagaatcag
360
aaccgagacc cccgggaatg gaaggctcat ttcttgaggg ctgtggatga tgctttcaag
420
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480
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540
acctgggatg aggacggaga ttttggcgat gcctggggcca ggatccccctt tgctttctgg
600
gccagatacc atcagtacat tctgaatagc aaccgtgcc aacaggagggc cacgtggaga
660
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720
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780
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840
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900
aggtggcatg caagatgaag ctctctttgc tcttcctgct ttcattttgt gcttttctt
960
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1020
aa
1022

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<210> 4524

<211> 262

<212> PRT

<213> Homo sapiens

<400> 4524

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Ala Leu Tyr Ile Leu Val Cys Thr Arg Asp Ser Ser Ala Arg Leu Leu
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Gly Lys Thr Lys Asp Thr Pro Arg Leu Ser Leu Xaa Leu Val Ile Leu
 20           25           30
Gly Val Ile Phe Met Asn Gly Asn Arg Ala Ser Glu Ala Val Leu Trp
 35           40           45
Glu Ala Leu Arg Lys Met Gly Leu Arg Pro Gly Val Arg His Pro Phe
 50           55           60
Leu Gly Asp Leu Arg Lys Leu Ile Thr Asp Asp Phe Val Lys Gln Lys
 65           70           75           80
Tyr Leu Glu Tyr Lys Lys Ile Pro Asn Ser Asn Pro Pro Glu Tyr Glu
 85           90           95
Phe Leu Trp Gly Leu Arg Ala Arg His Glu Thr Ser Lys Met Arg Val
 100          105          110
Leu Arg Phe Ile Ala Gln Asn Gln Asn Arg Asp Pro Arg Glu Trp Lys
 115          120          125
Ala His Phe Leu Glu Ala Val Asp Asp Ala Phe Lys Thr Met Asp Val
 130          135          140
Asp Met Ala Glu Glu His Ala Arg Ala Gln Met Arg Ala Gln Met Asn
 145          150          155          160
Ile Gly Asp Glu Ala Leu Ile Gly Arg Trp Ser Trp Asp Asp Ile Gln
 165          170          175
Val Glu Leu Leu Thr Trp Asp Glu Asp Gly Asp Phe Gly Asp Ala Trp
 180          185          190
Ala Arg Ile Pro Phe Ala Phe Trp Ala Arg Tyr His Gln Tyr Ile Leu
 195          200          205
Asn Ser Asn Arg Ala Asn Arg Arg Ala Thr Trp Arg Ala Gly Val Ser
 210          215          220
Ser Gly Thr Asn Gly Gly Ala Ser Thr Ser Val Leu Asp Gly Pro Ser
 225          230          235          240
Thr Ser Ser Thr Ile Arg Thr Arg Asn Ala Ala Arg Ala Gly Ala Ser
 245          250          255
Phe Phe Ser Trp Ile Gln
 260

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<210> 4525

<211> 1731

<212> DNA

<213> Homo sapiens

<400> 4525

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 120
gagacagggga gccaaagctag ctgagagcag cctgggcagc taatctcctt cagtgaggcc
 180
ctgcagcact tccagactgt ggacctttcc cccttcaaga aaagaatcca gccaaactatt
 240
cgaaggactg ggctcgccgc cctccgacac tacctcttcg ggctccaaa gctccaccag
 300

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cgccttcggg aagaaagga cttggtcctg accattgctc agtgtggcct ggatagccaa
 360
 gaccagtg c atggccgagt cctccagacc atctataaga agctgaccgg ctccaagttt
 420
 gactgtgccc ttcattgaaa ccactgggag gacctgggct ttcagggagc gaatccagcc
 480
 acagacctga gaggcgcagg ctcccttgcc ctctgcac c tgctctacct agtgatggac
 540
 tcaaagacct tgccgatggc gcaggagatt ttccgcctgt ctcgccacca catccagcaa
 600
 ttccctttct gtttgatgtc cgtgaacatc acccacattg ccatccaggc cttgagagag
 660
 gagtgtctct ccagagagtg taatcggcag cagaaggcca tccccgtggg gaacagcttc
 720
 tatgccgcca cattcctcca cctcgacat gtctggagga cacagcggaa gaccatctca
 780
 gactcgggct ttgtcctcaa aggtgtgctc tttcttctgg ggaggcctag gctgaatgca
 840
 cagtgtccca ggtccagaga gcccaagggt gttgctagac tggttttggc tgcagttctt
 900
 ccccatccac actttctcaa attccagctt accaaaatct ccatcaccca cccctggag
 960
 tctgctagtt ctctttctc tgccctgact gtccgcttt tctggtctta tacttatgac
 1020
 aagcatatat tctgatcaaa aattgggagc cagggtccaa tagttggact attcaaagtt
 1080
 gcaattgtgc agacaaggta gagtgtgtgg tcctgtggc ttagctggc tcctagcct
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 1200
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 1260
 ctcaagcctt ctgctcccca attctctctg ttgcagagtt ggaagtattg gccagaaga
 1320
 gccacggcg ggctgtcaa gacctggag ctgtacttgg ccagggtgtc aaaggacag
 1380
 gcctccttgt tgggagcaca gaagtgtat gggccagaag ccctccctt caaggatctc
 1440
 accttcacag gtgagagtga cctgcagtct cactcatccg aaggcgtatg gctgatctga
 1500
 cctccgagat gaatggaggc ttaaaggctg agctgcaggg gctttcaggg ggtcagtga
 1560
 gccatgtcag gagcctggcc aggcgcacc ccttgcctgc tcagcagatg ggatatagga
 1620
 agctcctggg cttagctgtg ggaagccaag taccctcacc ggcattgggac atgaggggca
 1680
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 1731

<210> 4526

<211> 344

<212> PRT

<213> Homo sapiens

<400> 4526

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Xaa Asn His Gly Ile Leu Gln Ala Leu Thr Thr Glu Ala Tyr Glu Trp
 1           5           10           15
Glu Pro Arg Val Val Ser Thr Glu Val Val Arg Ala Gln Glu Glu Trp
          20          25          30
Glu Ala Val Asp Thr Ile Gln Pro Glu Thr Gly Ser Gln Ala Ser Ser
          35          40          45
Glu Gln Pro Gly Gln Leu Ile Ser Phe Ser Glu Ala Leu Gln His Phe
          50          55          60
Gln Thr Val Asp Leu Ser Pro Phe Lys Lys Arg Ile Gln Pro Thr Ile
65          70          75          80
Arg Arg Thr Gly Leu Ala Ala Leu Arg His Tyr Leu Phe Gly Pro Pro
          85          90          95
Lys Leu His Gln Arg Leu Arg Glu Glu Arg Asp Leu Val Leu Thr Ile
          100         105         110
Ala Gln Cys Gly Leu Asp Ser Gln Asp Pro Val His Gly Arg Val Leu
          115         120         125
Gln Thr Ile Tyr Lys Lys Leu Thr Gly Ser Lys Phe Asp Cys Ala Leu
          130         135         140
His Gly Asn His Trp Glu Asp Leu Gly Phe Gln Gly Ala Asn Pro Ala
145         150         155         160
Thr Asp Leu Arg Gly Ala Gly Phe Leu Ala Leu Leu His Leu Leu Tyr
          165         170         175
Leu Val Met Asp Ser Lys Thr Leu Pro Met Ala Gln Glu Ile Phe Arg
          180         185         190
Leu Ser Arg His His Ile Gln Gln Phe Pro Phe Cys Leu Met Ser Val
          195         200         205
Asn Ile Thr His Ile Ala Ile Gln Ala Leu Arg Glu Glu Cys Leu Ser
          210         215         220
Arg Glu Cys Asn Arg Gln Gln Lys Val Ile Pro Val Val Asn Ser Phe
225         230         235         240
Tyr Ala Ala Thr Phe Leu His Leu Ala His Val Trp Arg Thr Gln Arg
          245         250         255
Lys Thr Ile Ser Asp Ser Gly Phe Val Leu Lys Gly Val Leu Phe Leu
          260         265         270
Leu Gly Arg Pro Arg Leu Asn Ala Gln Cys Pro Arg Ser Arg Glu Pro
          275         280         285
Lys Val Val Ala Arg Leu Val Leu Ala Ala Val Leu Pro His Pro His
          290         295         300
Phe Leu Lys Phe Gln Leu Thr Lys Ile Ser Ile Thr His Pro Leu Glu
305         310         315         320
Ser Ala Ser Ser Pro Phe Ser Ala Leu Thr Val Ala Leu Phe Trp Ser
          325         330         335
Tyr Thr Tyr Asp Lys His Ile Phe
          340

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<210> 4527

<211> 885

<212> DNA

<213> Homo sapiens

<400> 4527

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nnntttttttt tttttttttt tttttttttt tttttttttt tttttttttg cagagacatg
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gctgcattta ttgttcccag cccggcgaga aggtgttccc agaaagggttc cttgggtcac
 120
 ctgcccaccc agccttggtt ctgggctgcc atgtcccac gggggcagga gagaggcaca
 180
 agtcacagtc aggcaaggga gcctcagcgt cctggggcgtt ggctgttggg gtcctccag
 240
 tcttcacctg ggaccctcgg ccaggctggg acagcatcca ggaggcgagg ctgcatggtc
 300
 cagcgggtggg tgcagggtggc aacaggctcg cgggctgtgc aggttccaaa aggagctctc
 360
 ggggttggcac tgggtgagac cagccccggg gccagcaggg gaatgagcgg tggagcaggg
 420
 ggttgctggg cactgggggtg ggccccatct cctgtccttc cctcatggct gctggaaggg
 480
 ccgcctccct ggctcagcat catctcagat tccgggactc aaacaccgtc tcctcgtcgc
 540
 tgtccagcga ggccatctcc gtggggctct cagtgttggc gaggaggcgg tatcgctcc
 600
 gctgaggctt cttcaacctt aacgcccggg tcaggaagta gagcgcggtc aggccgcaga
 660
 agcccaggat cacgtagaag gagcgcgta gcgcccagcc cgacgcccc ggccgacgcg
 720
 tgtgcgtgct gttgtgtggc gcgcccggct ggctcccgtt cgtcacggcc ggccggcgcg
 780
 acaacgtgac ctggcggggg cagcggcgag cctcttcggc accgcacggc agcccgcca
 840
 gcagcagcg cagcaggagc agcagcagcg gcggctgcag cacgc
 885

<210> 4528

<211> 206

<212> PRT

<213> Homo sapiens

<400> 4528

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Phe | Phe | Phe | Phe | Phe | Phe | Phe | Phe | Phe | Phe | Phe | Phe | Phe | Phe | Phe |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Cys | Arg | Asp | Met | Ala | Ala | Phe | Ile | Val | Pro | Ser | Pro | Ala | Arg | Arg | Cys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Gln | Lys | Gly | Ser | Leu | Gly | His | Leu | Pro | Thr | Gln | Pro | Trp | Leu | Trp |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Ala | Met | Ser | Pro | Arg | Gly | Gln | Glu | Arg | Gly | Thr | Ser | His | Ser | Gln |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ala | Arg | Glu | Pro | Gln | Arg | Pro | Gly | Arg | Trp | Leu | Leu | Gly | Ser | Leu | Gln |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Ser | Pro | Gly | Thr | Leu | Gly | Gln | Ala | Gly | Thr | Ala | Ser | Arg | Arg | Arg |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Gly | Cys | Met | Val | Gln | Arg | Trp | Val | Gln | Val | Ala | Thr | Gly | Arg | Arg | Ala |
| | | | 100 | | | | | 105 | | | | 110 | | | |
| Val | Gln | Val | Pro | Lys | Gly | Ala | Leu | Gly | Leu | Ala | Leu | Gly | Glu | Thr | Ser |
| | | 115 | | | | | 120 | | | | 125 | | | | |
| Pro | Gly | Ala | Ser | Arg | Gly | Met | Ser | Gly | Gly | Ala | Gly | Gly | Cys | Trp | Ala |
| | 130 | | | | | 135 | | | | 140 | | | | | |
| Leu | Gly | Trp | Ala | Pro | Ser | Pro | Val | Leu | Pro | Ser | Trp | Leu | Leu | Glu | Gly |

```

145          150          155          160
Pro Pro Pro Trp Leu Ser Ile Ile Ser Asp Ser Gly Thr Gln Thr Pro
          165          170          175
Ser Pro Arg Arg Cys Pro Ala Arg Pro Ser Pro Trp Gly Pro Gln Cys
          180          185          190
Trp Arg Gly Gly Arg Ile Ala Ser Ala Glu Ala Ser Ser Thr
          195          200          205

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<210> 4529
 <211> 546
 <212> DNA
 <213> Homo sapiens

<400> 4529
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 120
 aagatggagg agaaaccctc agggcccatc ccggacatgc tggccactgc agagcccagc
 180
 tccagtgaga ccgacaagga ggtgttgtcc ccggtgtgac cagctgcagc cccctcctcc
 240
 tccatgtcgg aggagccagg ccctgagcag gcagccacac cgccagtggg gaacgtggag
 300
 gggctggagg gatgcagcag ggctcctccc cagccccaga cagctgccag tctggccccg
 360
 gaccagccc tggcctgacc agcatagtct ccgggaccag cgaggacctg cggcctccca
 420
 gacgagccc acctccaggg aagcaaatec cttgtctcag ccctggctgc tgccctcagtt
 480
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 540
 agtctc
 546

<210> 4530
 <211> 84
 <212> PRT
 <213> Homo sapiens

<400> 4530
 Met Glu Glu Lys Pro Ser Gly Pro Ile Pro Asp Met Leu Ala Thr Ala
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 Glu Pro Ser Ser Ser Glu Thr Asp Lys Glu Val Leu Ser Pro Ala Val
 20 25 30
 Pro Ala Ala Ala Pro Ser Ser Ser Met Ser Glu Glu Pro Gly Pro Glu
 35 40 45
 Gln Ala Ala Thr Pro Pro Val Gly Asn Val Glu Gly Leu Glu Gly Cys
 50 55 60
 Ser Arg Ala Pro Pro Gln Pro Gln Thr Ala Ala Ser Leu Ala Pro Asp
 65 70 75 80
 Pro Ala Leu Ala

<210> 4531
<211> 1414
<212> DNA
<213> Homo sapiens

<400> 4531
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gccgggtccct tgcagggcgg tggggcccgg gccctggacc tactccgggg cctgccgcgt
120
gtgagcctgg ccaacttaaa gccgaatccc ggctccaaga aaccggagag aagaccaaga
180
ggtcggagaa gaggtagaaa atgtggcaga ggccataaag gagaaaggca aagaggaacc
240
cgccccgct tgggctttga gggaggccag actccatttt acatccgaat cccaaaatac
300
gggtttaacg aaggacatag ttccagacgc cagtataagc ctttgagtct caatagactg
360
cagtatctta ttgatttggg tcgtgttgat cctagtcaac ctattgactt aaccagctt
420
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480
gaggagggtg ctgacacctt tacggcaaaa gttaatatg aagtacagtt ggcttcagaa
540
ctagctattg ctgccattga aaaaaatggt ggtgttgta ctacagcctt ctatgatcca
600
agaagtctgg acattgtatg caaacctggt ccattcttct ttcgtggaca acccattcca
660
aaaagaatgc ttccaccaga agaactggta ccatattaca ctgatgcaaa gaaccgtggg
720
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840
ccaaggcaga ttttctttgg tcttgctcca ggatgggtgg tgaatatggc cgataagaaa
900
atcctaaaac ctacagatga aaatctcctt aagtattata cctcatgaat tcccgccaa
960
ggaagcagag ttgttaaaga gtactggaat aggggctgaa ggatctatat tcccttattg
1020
cattttcctt atgtataatt ttccagatgg tgatgttact tttcagtgt ctcatatgtc
1080
tcattttcat ctaaaattaa atggcaggaa acaaggactg catagagaaa ctgagtctgt
1140
gtgggttctg tctcaaagat acaaaactccc tgatagtcta tggaaggaaa atgacaacta
1200
ttttagaata tttctagttt gttttttcag tgatcttttc atccaggcct tgttactgtt
1260
acagatcaga atgaaatgca caagtggaat gggattgacc tgtaggcctg ctctgccgag
1320
atgagagcag atggaatgag ttggtgaccc ctcttaatct gtagcctcag ggaaacacgg
1380
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1414

<210> 4532
 <211> 296
 <212> PRT
 <213> Homo sapiens

<400> 4532
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 Arg Gly Leu Pro Arg Val Ser Leu Ala Asn Leu Lys Pro Asn Pro Gly
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 Ser Lys Lys Pro Glu Arg Arg Pro Arg Gly Arg Arg Arg Gly Arg Lys
 35 40 45
 Cys Gly Arg Gly His Lys Gly Glu Arg Gln Arg Gly Thr Arg Pro Arg
 50 55 60
 Leu Gly Phe Glu Gly Gly Gln Thr Pro Phe Tyr Ile Arg Ile Pro Lys
 65 70 75 80
 Tyr Gly Phe Asn Glu Gly His Ser Phe Arg Arg Gln Tyr Lys Pro Leu
 85 90 95
 Ser Leu Asn Arg Leu Gln Tyr Leu Ile Asp Leu Gly Arg Val Asp Pro
 100 105 110
 Ser Gln Pro Ile Asp Leu Thr Gln Leu Val Asn Gly Arg Gly Val Thr
 115 120 125
 Ile Gln Pro Leu Lys Arg Asp Tyr Gly Val Gln Leu Val Glu Glu Gly
 130 135 140
 Ala Asp Thr Phe Thr Ala Lys Val Asn Ile Glu Val Gln Leu Ala Ser
 145 150 155 160
 Glu Leu Ala Ile Ala Ala Ile Glu Lys Asn Gly Gly Val Val Thr Thr
 165 170 175
 Ala Phe Tyr Asp Pro Arg Ser Leu Asp Ile Val Cys Lys Pro Val Pro
 180 185 190
 Phe Phe Leu Arg Gly Gln Pro Ile Pro Lys Arg Met Leu Pro Pro Glu
 195 200 205
 Glu Leu Val Pro Tyr Tyr Thr Asp Ala Lys Asn Arg Gly Tyr Leu Ala
 210 215 220
 Asp Pro Ala Lys Phe Pro Glu Ala Arg Leu Glu Leu Ala Arg Lys Tyr
 225 230 235 240
 Gly Tyr Ile Leu Pro Asp Ile Thr Lys Asp Glu Leu Phe Lys Met Leu
 245 250 255
 Cys Thr Arg Lys Asp Pro Arg Gln Ile Phe Phe Gly Leu Ala Pro Gly
 260 265 270
 Trp Val Val Asn Met Ala Asp Lys Lys Ile Leu Lys Pro Thr Asp Glu
 275 280 285
 Asn Leu Leu Lys Tyr Tyr Thr Ser
 290 295

<210> 4533
 <211> 968
 <212> DNA
 <213> Homo sapiens

<400> 4533
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 60

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 120
 gcgcggcggc ccgcgcgagc catggactgg ctcatgggga agtccaaagc caagcccaat
 180
 ggcaagaagc ccgctgcgga ggagaggaag gcctacctgg agcctgagca caccaaggcc
 240
 aggatcaccg acttccagtt caaggagctg gtgggtgctgc cccgggagat cgacctcaac
 300
 gagtggctgg ccagcaacac aacaacattht ttccaccaca tcaacctgca gtatagcaca
 360
 atctcggagt tctgcacagg agagacgtgt cagacgatgg ccgtgtgcaa cacacagtac
 420
 tactggatg acgagcgggg gaagaaggtc aagtgcacgg cccacacagta cgttgacttc
 480
 gtcctgagct ccgtgcagaa gctgggtgacg gatgaggacg tgttccccac aaaatacggc
 540
 agagaattcc ccagctcctt tgagtccctg gtgaggaaga tctgcagaca cctgttccac
 600
 gtgctggcac acatctactg ggcccacttc aaggagacgc tggccctgga gctgcacgga
 660
 cacttgaaca cgctctactg ccacttcata ctctttgctc gggagttcaa cctgctggac
 720
 cccaaagaga ccgccatcat ggacgacctc accgaggtgc tatgcagcgg ggccggcggg
 780
 gtccacagtg ggggcagtgg ggatggggcc ggcagcgggg gcccgggagc acagaaccac
 840
 gtgaaggaga gatgagcccc ccgggccgga caggggcaca cgtgtgcaaa gagacggtgg
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 968

<210> 4534

<211> 284

<212> PRT

<213> Homo sapiens

<400> 4534

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Arg | Ala | Gln | His | Met | Cys | Ala | His | Ala | Asp | Ala | Gly | Glu | Asn | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| His | His | Arg | Leu | Phe | Ala | His | Val | Cys | Pro | Cys | Pro | Asp | Ala | Gly | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Ala | Asp | Arg | Val | Gly | Gln | Arg | Ala | Arg | Arg | Pro | Arg | Ala | Ala | Met |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Trp | Leu | Met | Gly | Lys | Ser | Lys | Ala | Lys | Pro | Asn | Gly | Lys | Lys | Pro |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Ala | Ala | Glu | Glu | Arg | Lys | Ala | Tyr | Leu | Glu | Pro | Glu | His | Thr | Lys | Ala |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Arg | Ile | Thr | Asp | Phe | Gln | Phe | Lys | Glu | Leu | Val | Val | Leu | Pro | Arg | Glu |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ile | Asp | Leu | Asn | Glu | Trp | Leu | Ala | Ser | Asn | Thr | Thr | Thr | Phe | Phe | His |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| His | Ile | Asn | Leu | Gln | Tyr | Ser | Thr | Ile | Ser | Glu | Phe | Cys | Thr | Gly | Glu |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Thr | Cys | Gln | Thr | Met | Ala | Val | Cys | Asn | Thr | Gln | Tyr | Tyr | Trp | Tyr | Asp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Glu | Arg | Gly | Lys | Lys | Val | Lys | Cys | Thr | Ala | Pro | Gln | Tyr | Val | Asp | Phe |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Val | Met | Ser | Ser | Val | Gln | Lys | Leu | Val | Thr | Asp | Glu | Asp | Val | Phe | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Thr | Lys | Tyr | Gly | Arg | Glu | Phe | Pro | Ser | Ser | Phe | Glu | Ser | Leu | Val | Arg |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Lys | Ile | Cys | Arg | His | Leu | Phe | His | Val | Leu | Ala | His | Ile | Tyr | Trp | Ala |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| His | Phe | Lys | Glu | Thr | Leu | Ala | Leu | Glu | Leu | His | Gly | His | Leu | Asn | Thr |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Leu | Tyr | Val | His | Phe | Ile | Leu | Phe | Ala | Arg | Glu | Phe | Asn | Leu | Leu | Asp |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Pro | Lys | Glu | Thr | Ala | Ile | Met | Asp | Asp | Leu | Thr | Glu | Val | Leu | Cys | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Gly | Ala | Gly | Gly | Val | His | Ser | Gly | Gly | Ser | Gly | Asp | Gly | Ala | Gly | Ser |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Gly | Gly | Pro | Gly | Ala | Gln | Asn | His | Val | Lys | Glu | Arg | | | | |
| | | 275 | | | | | 280 | | | | | | | | |

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<210> 4535
<211> 473
<212> DNA
<213> Homo sapiens
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120
ctcagcctcc cgagtagctg ggattacagg cgtccgccac cagccccggc taatttttgt
180
atttttagta gaaacggggt ttcaccatct cggccagggt ggtcttgaac tcctgacctc
240
atgatccatc cgccttggcc tcccaaagtg ctgggattac aggcattgagc taccgcgcc
300
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360
ttcggtatga cctcccttgc tctattcctt ggaagaagta caggcactgg tcaagagtgc
420
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473

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<210> 4536
<211> 75
<212> PRT
<213> Homo sapiens
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<400> 4536
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  1                      5                      10                      15
Gln Ala Gly Val Gln Trp His Asp His Ser Ser Leu Gln Pro Leu Pro

```

| | | | | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | 20 | | | | | | 25 | | | | | 30 | | | |
| Pro | Arg | Phe | Lys | Gln | Phe | Ser | Xaa | Leu | Ser | Leu | Pro | Ser | Ser | Trp | Asp | | |
| | | 35 | | | | | 40 | | | | | 45 | | | | | |
| Tyr | Arg | Arg | Pro | Pro | Pro | Arg | Pro | Ala | Asn | Phe | Cys | Ile | Phe | Ser | Arg | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | |
| Asn | Gly | Val | Ser | Pro | Ser | Arg | Pro | Gly | Trp | Ser | | | | | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| <210> 4537 | | | | | | | | | | | | | | | | | |
| <211> 2811 | | | | | | | | | | | | | | | | | |
| <212> DNA | | | | | | | | | | | | | | | | | |
| <213> Homo sapiens | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| <400> 4537 | | | | | | | | | | | | | | | | | |
| naagcttggc acgagggaaa tgaagcctgt gatttggact ccacagtgtc tgctcttggc | | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | |
| ctggcttttt acctagcaaa gacaactgag gctgaggaag tctttgtgcc agttttaaat | | | | | | | | | | | | | | | | | |
| 120 | | | | | | | | | | | | | | | | | |
| ataaaacggt ctgaactacc tctgcgaggt gacattgtct tctttcttca gaaggttcat | | | | | | | | | | | | | | | | | |
| 180 | | | | | | | | | | | | | | | | | |
| attccagaga gtatcttgat ttttcgggat gagattgacc tccatgcatt ataccaggct | | | | | | | | | | | | | | | | | |
| 240 | | | | | | | | | | | | | | | | | |
| ggccaactca ccctcatcct tgtcgaccat catatcttat ccaaaagtga cacagcccta | | | | | | | | | | | | | | | | | |
| 300 | | | | | | | | | | | | | | | | | |
| gaggagngca gtagcagagg tgctagacca tcgacccatc gagccgaaac actgcctcc | | | | | | | | | | | | | | | | | |
| 360 | | | | | | | | | | | | | | | | | |
| ctgnnccatg tttcagttga gctggtgggg tcctgtgcta ccctggtgac cgagagaatc | | | | | | | | | | | | | | | | | |
| 420 | | | | | | | | | | | | | | | | | |
| ctgcaggggg caccagagat cttggacagg caaactgcag cccttctgca tggaaaccatc | | | | | | | | | | | | | | | | | |
| 480 | | | | | | | | | | | | | | | | | |
| atcctggact gtgtcaacat ggaccttaaa attggaaagg caaccccaaa ggacagcaaa | | | | | | | | | | | | | | | | | |
| 540 | | | | | | | | | | | | | | | | | |
| tatgtggaga aactagaggc ccttttccca gacctacca agagaaatga tatatttgat | | | | | | | | | | | | | | | | | |
| 600 | | | | | | | | | | | | | | | | | |
| tccctacaaa aggcaaagtt tgatgtatca ggactgacca ctgagcagat gctgagaaaa | | | | | | | | | | | | | | | | | |
| 660 | | | | | | | | | | | | | | | | | |
| gaccagaaga ctatctatag acaaggcgtc aagggtggcca ttagtgcaat atatatggat | | | | | | | | | | | | | | | | | |
| 720 | | | | | | | | | | | | | | | | | |
| ttggaggcct ttctgcagag gtctaacctc cttgcagatc tccatgcttt ctgccaggct | | | | | | | | | | | | | | | | | |
| 780 | | | | | | | | | | | | | | | | | |
| cacagctatg atgtcctggt tgccatgact atctttttca aactcacaa tgagccagt | | | | | | | | | | | | | | | | | |
| 840 | | | | | | | | | | | | | | | | | |
| cggcagttgg ctattttctg tccccatgtg gcactccaaa caacgatctg tgaagtctctg | | | | | | | | | | | | | | | | | |
| 900 | | | | | | | | | | | | | | | | | |
| gaacgctccc actctccacc cctgaagctg acccctgcct caagtacca cctaacctc | | | | | | | | | | | | | | | | | |
| 960 | | | | | | | | | | | | | | | | | |
| catgcctatc ttcaaggcaa caccaggtc tctcgaaaga aacttctgcc cctgctccag | | | | | | | | | | | | | | | | | |
| 1020 | | | | | | | | | | | | | | | | | |
| gaagccctgt cagcatatct tgactccatg aagatccctt caggacagcc tgagacagca | | | | | | | | | | | | | | | | | |
| 1080 | | | | | | | | | | | | | | | | | |
| gatgtgtcca gggagcaagt ggacaaggaa ttggacaggg caagtaactc cctgatttct | | | | | | | | | | | | | | | | | |
| 1140 | | | | | | | | | | | | | | | | | |
| ggactgagtc aagatgagga ggaccctccg ctgcccccca cgcccatgaa cagcttggtg | | | | | | | | | | | | | | | | | |
| 1200 | | | | | | | | | | | | | | | | | |

gatgagtgcc ctctagatca ggggctgcct aaactctctg ctgaggccgt cttcgagaag
1260
tgcagtcaga tctcactgtc acagtctacc acagcctccc tgtccaagaa gtgactgttg
1320
agaggcgagg aggtagtggg tgaggctacc tgactcactt caaatgcatg ttttgagatg
1380
tttgagatt cagcaattct gtcttcattg ctccaggatc tggatatactg ttctcataaa
1440
actgagagga gaaaaaaagt gaaagaaagc agctgcttta agaatgggtt tccacctttt
1500
ccccctaac tctaccaatc agacacattt tattatttaa atctgcacct ctctctattt
1560
tatttgccag gggcacgatg tgacatatct gcagtcccag cacagtggga caaaaagaat
1620
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1680
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1740
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1800
tcagcctaca gcagattatc agctcgggtga cttttctttc tgccaccatt taggtgatgg
1860
tgtttgattc agagatgggt gaatttctat tcttagctta ttgtgactgt ttcagatcta
1920
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1980
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2040
cagaaaggcc ttaatgacct cataggcact cttccaaaaa gacaacagaa ctggaatgag
2100
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2160
ccttgctcac attaaaagga agcatggagt tctaattgct ccataaacta tgtatttttg
2220
caagacactt cactactcca ggtctcactt tccccatctg taaaacaggg tttggactag
2280
gtgttcctg gtattctgtg atctgcctct tgetgccatt ctttctctcc tctgcttctc
2340
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2400
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2460
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2700
agtgggtgta tcatgaacca aaggaattta tgttttgtaa cttgggtact ttattttgca
2760
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2811

<210> 4538
 <211> 437
 <212> PRT
 <213> Homo sapiens

<400> 4538
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 1 5 10 15
 Ser Ala Leu Ala Leu Ala Phe Tyr Leu Ala Lys Thr Thr Glu Ala Glu
 20 25 30
 Glu Val Phe Val Pro Val Leu Asn Ile Lys Arg Ser Glu Leu Pro Leu
 35 40 45
 Arg Gly Asp Ile Val Phe Phe Leu Gln Lys Val His Ile Pro Glu Ser
 50 55 60
 Ile Leu Ile Phe Arg Asp Glu Ile Asp Leu His Ala Leu Tyr Gln Ala
 65 70 75 80
 Gly Gln Leu Thr Leu Ile Leu Val Asp His His Ile Leu Ser Lys Ser
 85 90 95
 Asp Thr Ala Leu Glu Glu Xaa Ser Ser Arg Gly Ala Arg Pro Ser Thr
 100 105 110
 His Arg Ala Glu Thr Leu Pro Ser Leu Xaa His Val Ser Val Glu Leu
 115 120 125
 Val Gly Ser Cys Ala Thr Leu Val Thr Glu Arg Ile Leu Gln Gly Ala
 130 135 140
 Pro Glu Ile Leu Asp Arg Gln Thr Ala Ala Leu Leu His Gly Thr Ile
 145 150 155 160
 Ile Leu Asp Cys Val Asn Met Asp Leu Lys Ile Gly Lys Ala Thr Pro
 165 170 175
 Lys Asp Ser Lys Tyr Val Glu Lys Leu Glu Ala Leu Phe Pro Asp Leu
 180 185 190
 Pro Lys Arg Asn Asp Ile Phe Asp Ser Leu Gln Lys Ala Lys Phe Asp
 195 200 205
 Val Ser Gly Leu Thr Thr Glu Gln Met Leu Arg Lys Asp Gln Lys Thr
 210 215 220
 Ile Tyr Arg Gln Gly Val Lys Val Ala Ile Ser Ala Ile Tyr Met Asp
 225 230 235 240
 Leu Glu Ala Phe Leu Gln Arg Ser Asn Leu Leu Ala Asp Leu His Ala
 245 250 255
 Phe Cys Gln Ala His Ser Tyr Asp Val Leu Val Ala Met Thr Ile Phe
 260 265 270
 Phe Asn Thr His Asn Glu Pro Val Arg Gln Leu Ala Ile Phe Cys Pro
 275 280 285
 His Val Ala Leu Gln Thr Thr Ile Cys Glu Val Leu Glu Arg Ser His
 290 295 300
 Ser Pro Pro Leu Lys Leu Thr Pro Ala Ser Ser Thr His Pro Asn Leu
 305 310 315 320
 His Ala Tyr Leu Gln Gly Asn Thr Gln Val Ser Arg Lys Lys Leu Leu
 325 330 335
 Pro Leu Leu Gln Glu Ala Leu Ser Ala Tyr Phe Asp Ser Met Lys Ile
 340 345 350
 Pro Ser Gly Gln Pro Glu Thr Ala Asp Val Ser Arg Glu Gln Val Asp
 355 360 365
 Lys Glu Leu Asp Arg Ala Ser Asn Ser Leu Ile Ser Gly Leu Ser Gln

```

      370              375              380
Asp Glu Glu Asp Pro Pro Leu Pro Pro Thr Pro Met Asn Ser Leu Val
385              390              395              400
Asp Glu Cys Pro Leu Asp Gln Gly Leu Pro Lys Leu Ser Ala Glu Ala
      405              410              415
Val Phe Glu Lys Cys Ser Gln Ile Ser Leu Ser Gln Ser Thr Thr Ala
      420              425              430
Ser Leu Ser Lys Lys
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<210> 4539

<211> 331

<212> DNA

<213> Homo sapiens

<400> 4539

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120
tcacctggaa actccagcaa gagcagaggc aggtggagga gctgaggatg cagcttcaga
180
agcagaaaag gaataactgt tcagagaaga agccgctgcc tttcctggct gcctccatca
240
agcaagaaga ggctgtctcc agctgtcctt ttgcatccca agtacctgtg aaaagacaaa
300
gcagcagctc aaagtgtcac ccaccggctt g
331

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<210> 4540

<211> 99

<212> PRT

<213> Homo sapiens

<400> 4540

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Thr Arg Ser Leu Gly Glu Asn Gln Arg Val Ile Asn Glu Leu Thr Trp
      20              25              30
Lys Leu Gln Gln Glu Gln Arg Gln Val Glu Glu Leu Arg Met Gln Leu
      35              40              45
Gln Lys Gln Lys Arg Asn Asn Cys Ser Glu Lys Lys Pro Leu Pro Phe
      50              55              60
Leu Ala Ala Ser Ile Lys Gln Glu Glu Ala Val Ser Ser Cys Pro Phe
65              70              75              80
Ala Ser Gln Val Pro Val Lys Arg Gln Ser Ser Ser Ser Lys Cys His
      85              90              95
Pro Pro Ala

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<210> 4541

<211> 452

<212> DNA

<213> Homo sapiens

<400> 4541
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 cacaggcaga tccagggatg taactgcttc agcaagaact gttgcgaatc ccttcgctgt
 120
 tccagtctga gaaccataaa aaatcttcac tccagacaca aagatgtctt tctcttgaag
 180
 ggagacataa ccatttgtca tcaaactcctg agctgctttt ggaacagatt tttcctgtaa
 240
 gttcttgccc tgcgtcttga tgacaatctg gacacaaatc caaaggctaa tgctaacagc
 300
 aaagcccaaa taaatgtaaa acctgtttat ccacaatgat attaaagggtg agaagaggtc
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 420
 ctggagagcc cgatgattcg cactgggtact gc
 452

<210> 4542
 <211> 128
 <212> PRT
 <213> Homo sapiens

<400> 4542
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 Leu Trp Ile Asn Arg Phe Tyr Ile Tyr Leu Gly Phe Ala Val Ser Ile
 20 25 30
 Ser Leu Trp Ile Cys Val Gln Ile Val Ile Lys Thr Gln Gly Lys Asn
 35 40 45
 Leu Gln Glu Lys Ser Val Pro Lys Ala Ala Gln Asp Leu Met Thr Asn
 50 55 60
 Gly Tyr Val Ser Leu Gln Glu Lys Asp Ile Phe Val Ser Gly Val Lys
 65 70 75 80
 Ile Phe Tyr Gly Ser Gln Thr Gly Thr Ala Lys Gly Phe Ala Thr Val
 85 90 95
 Leu Ala Glu Ala Val Thr Ser Leu Asp Leu Pro Val Ala Ile Ile Asn
 100 105 110
 Leu Lys Glu Tyr Asp Pro Asp Asp His Leu Ile Glu Glu Val Thr Ser
 115 120 125

<210> 4543
 <211> 815
 <212> DNA
 <213> Homo sapiens

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 120
 gaggccccgc gcaccaatgc tttgcacttt gcctcgcccg acaccctgcg ggccagagct
 180

cctctgccgc ccaccgggct aacccttccg ggccctcacca ctcccagagt gctctgctta
 240
 tccggccact gactccggct cctcggaagc agggccaccc tctgaaatg gcttggaacg
 300
 gggctttcca ctggtgccct ccccagacga ttgcttgtaa tgggccagtg cctcgccagg
 360
 gacacagcgg cagccccctg tagcttgtgg ctgttcagaa acaagtccag cccaggtagg
 420
 gcagagggct ctgactgggg acccaagaag ggctggctgt gccgccaccg ctgccccgtc
 480
 accatcactg tgctgaagag ctcgaggctg ggcccaccg cgccggcccc acgttcctcc
 540
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 600
 ccagagctca cccctgaaca tgagcaagcg caaagaaacc cccatccctg ctcccaaaaa
 660
 agggcgcccc caaggccatt ttgaagggtg ggggaagccc ggattccgag aaaccgcaac
 720
 cagccgtcta cctcaggaag ctcgctaggg aggagcgcat tctatgtgac taatgcggac
 780
 tggcctgcac cgcctacgga gagaagacaa cgcgt
 815

<210> 4544

<211> 150

<212> PRT

<213> Homo sapiens

<400> 4544

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Thr | Gly | Gln | Arg | Trp | Arg | His | Ser | Gln | Pro | Phe | Leu | Gly | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Ser | Glu | Pro | Ser | Ala | Leu | Pro | Gly | Leu | Asp | Leu | Phe | Leu | Asn | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| His | Lys | Leu | Gln | Gly | Ala | Ala | Ala | Val | Ser | Leu | Ala | Arg | His | Trp | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Thr | Ser | Asn | Arg | Leu | Gly | Arg | Ala | Pro | Val | Glu | Ser | Pro | Val | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | His | Phe | Arg | Arg | Val | Ala | Leu | Leu | Pro | Arg | Ser | Arg | Ser | Gln | Trp |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Pro | Asp | Lys | Gln | Ser | His | Ser | Gly | Val | Val | Arg | Pro | Gly | Arg | Val | Ser |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Pro | Val | Gly | Gly | Arg | Gly | Ala | Leu | Ala | Arg | Arg | Val | Ser | Gly | Glu | Ala |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Lys | Cys | Lys | Ala | Leu | Val | Arg | Gly | Ala | Ser | Gly | Ser | His | Gly | Gly | Ala |
| | | 115 | | | | | | 120 | | | | 125 | | | |
| Ala | Gly | Gln | Gly | Pro | Ala | Val | Thr | Arg | Ser | Pro | Ser | Ser | Leu | Cys | Leu |
| | | 130 | | | | 135 | | | | | | 140 | | | |
| Ala | Leu | Val | Ser | Thr | Gly | | | | | | | | | | |
| 145 | | | | | 150 | | | | | | | | | | |

<210> 4545

<211> 3568

<212> DNA

<213> Homo sapiens

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<400> 4545
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<213> Homo sapiens

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| Gly | Thr | Arg | Gly | Val | Val | Ala | Leu | Gln | Thr | Leu | Arg | Lys | Leu | Val | Glu |
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3742

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| Pro | Ala | Asp | Met | Leu | Leu | Leu | Ala | Ser | Thr | Glu | Pro | Ser | Ser | Leu | Cys |
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| Tyr | Val | Glu | Thr | Val | Asp | Ile | Asp | Gly | Glu | Thr | Asn | Leu | Lys | Phe | Arg |
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| Gln | Ala | Leu | Met | Val | Thr | His | Lys | Glu | Leu | Ala | Thr | Ile | Lys | Lys | Met |
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| Thr | Lys | Leu | Asp | Leu | Leu | Met | Asn | Lys | Leu | Val | Val | Val | Ile | Phe | Ile |
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| Leu | Leu | Ser | Val | Thr | Ile | Pro | Met | Ser | Met | Phe | Ile | Leu | Ser | Glu | Phe |
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| | | | 245 | | | | | | 250 | | | | | 255 | |
| Asp | His | Leu | Gly | Gln | Val | Glu | Tyr | Ile | Phe | Ser | Asp | Lys | Thr | Gly | Thr |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Leu | Thr | Gln | Asn | Ile | Leu | Thr | Phe | Asn | Lys | Cys | Cys | Ile | Ser | Gly | Arg |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Val | Tyr | Gly | Glu | Pro | Leu | Pro | Leu | Glu | Gln | Val | Arg | Arg | Arg | Glu | Ala |
| | | 290 | | | | 295 | | | | | 300 | | | | |
| Ala | Leu | Pro | Gln | Cys | Gly | Pro | Ala | Ala | Pro | Arg | Ala | Asp | Gln | Arg | Gly |
| 305 | | | | 310 | | | | | | 315 | | | | 320 | |
| Arg | Gly | Arg | Ala | Gly | Val | Leu | Ala | Pro | Ala | Gly | His | Leu | Pro | His | Gly |
| | | | 325 | | | | | 330 | | | | | | 335 | |
| Asp | Asp | Gln | Leu | Leu | Tyr | Gln | Ala | Ala | Ser | Pro | Asp | Glu | Gly | Ala | Leu |

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      340      345      350
Val Thr Ala Ala Arg Asn Phe Gly Tyr Val Phe Leu Ser Arg Thr Gln
      355      360      365
Asp Thr Val Thr Ile Met Glu Leu Gly Glu Glu Arg Val Tyr Gln Val
      370      375      380
Leu Ala Ile Met Asp Phe Asn Ser Thr Arg Lys Arg Met Ser Val Leu
385      390      395      400
Val Arg Lys Pro Glu Gly Ala Ile Cys Leu Tyr Thr Lys Gly Ala Asp
      405      410      415
Thr Val Ile Phe Glu Arg Leu His Arg Arg Gly Ala Met Glu Phe Ala
      420      425      430
Thr Glu Glu Ala Leu Ala Ala Phe Ala Gln Glu Thr Leu Arg Thr Leu
      435      440      445
Cys Leu Ala Tyr Arg Glu Val Ala Glu Asp Ile Tyr Glu Asp Trp Gln
450      455      460
Gln Arg His Gln Glu Ala Ser Leu Leu Leu Gln Asn Arg Ala Gln Ala
465      470      475      480
Leu Gln Gln Val Tyr Asn Glu Met Glu Gln Asp Leu Arg Leu Leu Gly
      485      490      495
Ala Thr Ala Ile Glu Asp Arg Leu Gln Asp Gly Val Pro Glu Thr Ile
      500      505      510
Lys Cys Leu Lys Lys Ser Asn Ile Lys Ile Trp Val Leu Thr Gly Asp
515      520      525
Lys Gln Glu Thr Ala Val Asn Ile Gly Phe Ala Cys Glu Leu Leu Ser
530      535      540
Glu Asn Met Leu Ile Leu Glu Glu Lys Glu Ile Ser Arg Ile Leu Glu
545      550      555      560
Thr Tyr Trp Glu Asn Ser Asn Asn Leu Leu Thr Arg Glu Ser Leu Ser
      565      570      575
Gln Val Lys Leu Ala Leu Val Ile Asn Gly Asp Phe Leu Asp Lys Leu
      580      585      590
Leu Val Ser Leu Arg Lys Glu Pro Arg Ala Leu Ala Gln Asn Val Asn
595      600      605
Met Asp Glu Ala Trp Gln Glu Leu Gly Gln Ser Arg Arg Asp Phe Leu
610      615      620
Tyr Ala Arg Arg Leu Ser Leu Leu Cys Arg Arg Phe Gly Leu Pro Leu
625      630      635      640
Ala Ala Pro Pro Ala Gln Asp Ser Arg Ala Arg Arg Ser Ser Glu Val
      645      650      655
Leu Gln Glu Arg Ala Phe Val Asp Leu Ala Ser Lys Cys Gln Ala Val
      660      665      670
Ile Cys Cys Arg Val Thr Pro Lys Gln Lys Ala Leu Ile Val Ala Leu
675      680      685
Val Lys Lys Tyr His Gln Val Val Thr Leu Ala Ile Gly Asp Gly Ala
690      695      700
Asn Asp Ile Asn Met Ile Lys Thr Ala Asp Val Gly Val Gly Leu Ala
705      710      715      720
Gly Gln Glu Gly Met Gln Ala Val Gln Asn Ser Asp Phe Val Leu Gly
      725      730      735
Gln Phe Cys Phe Leu Gln Arg Leu Leu Val His Gly Arg Trp Ser
      740      745      750
Tyr Val Arg Ile Cys Lys Phe Leu Arg Tyr Phe Phe Tyr Lys Ser Met
755      760      765
Ala Ser Met Met Val Gln Val Trp Phe Ala Cys Tyr Asn Gly Phe Thr

```

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      770              775              780
Gly Gln Asp Val Ser Ala Glu Gln Ser Leu Glu Lys Pro Glu Leu Tyr
785              790              795              800
Val Val Gly Gln Lys Asp Glu Leu Phe Asn Tyr Trp Val Phe Val Gln
      805              810              815
Ala Ile Ala His Gly Val Thr Thr Ser Leu Val Asn Phe Phe Met Thr
      820              825              830
Leu Trp Ile Ser Arg Asp Thr Ala Gly Pro Ala Ser Phe Ser Asp His
      835              840              845
Gln Ser Phe Ala Val Val Val Ala Leu Ser Cys Leu Leu Ser Ile Thr
      850              855              860
Met Glu Val Ile Leu Ile Ile Lys Tyr Trp Thr Ala Leu Cys Val Ala
865              870              875              880
Thr Ile Leu Leu Ser Leu Gly Phe Tyr Ala Ile Met Thr Thr Thr Thr
      885              890              895
Gln Ser Phe Trp Leu Phe Arg Met Pro Thr Ser Ala
      900              905

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<210> 4551

<211> 361

<212> DNA

<213> Homo sapiens

<400> 4551

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120
caggcagggg tggttttggc tgtctcagag caggcctcag cagcacactg tccagtacca
180
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240
agagacccca cacagcgcac atgggagagt ggatgccaaa ggtgggcagc ggggagggcg
300
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360
c
361

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<210> 4552

<211> 100

<212> PRT

<213> Homo sapiens

<400> 4552

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Ala Leu Gln Gly Gln Ala Gly Val Ala Leu Pro Val Ser Glu Gln Ala
      20              25              30
Ser Ala Ala His Cys Pro Val Pro Gly Ile Ser Glu Gly Pro Arg Thr
      35              40              45
Cys Ser Gln Gln Gly Arg Gln Gly Arg Ala Pro Arg Arg Asp Pro Thr
      50              55              60
Gln Arg Thr Trp Glu Ser Gly Cys Gln Arg Trp Ala Ala Gly Arg Ala

```


| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | 70 | | 75 | | 80 | | | | | | | | | |
| Pro | Ala | Lys | Gln | Ser | Leu | Cys | Gly | Val | Pro | His | Ala | Ala | Glu | Val | Ser |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Val | Arg | Cys | Trp | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | |

<210> 4553

<211> 2970

<212> DNA

<213> Homo sapiens

<400> 4553

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120
tgcaattgtg gcactggcac ttatttcagt gaagaaaaac tttgtggttc tatggcattc
180
atcatttgac aaatgcaagc atcttcctta tcaatcagct cctattgaac ttactagcac
240
tgactgtgga atccttaagg gccattaca tttctgaaga agaaagctaa gatgaaggac
300
atgccactcc gaattcatgt gctacttggc ctagctatca ctacactagt acaagctgta
360
gataaaaaag tggattgtcc acggttatgt acgtgtgaaa tcaggccttg gtttacacc
420
agatccattt atatggaagc atctacagtg gattgtaatg atttaggtct ttttaacttc
480
ccagccagat tgccagctaa cacacagatt cttctcctac agactaacia tattgcaaaa
540
attgaatact ccacagactt tccagtaaac cttactggcc tggatttatt tcaaaacaat
600
ttatcttcag tcaccaatat taatgtaaaa aagatgcctc agctcctttc tgtgtacct
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720
gaactctata ttaatcacia cttgctttct acaatttcac ctggagcctt tattggccta
780
cataatcttc ttcgacttca tctcaattca aatagattgc agatgatcaa cagtaagtgg
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900
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960
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1020
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1080
tttttggatc taaataaaaa tcctattaat agaatacgaa ggggtgattt tagcaatatg
1140
ctacacttaa aagagttggg gataaataat atgcctgagc tgatttccat cgatagtctt
1200
gctgtggata acctgccaga tttaagaaaa atagaagcta ctaacaacc tagattgtct
1260

```

tacattcacc ccaatgcatt tttcagactc cccaagctgg aatcactcat gctgaacagc
 1320
 aatgctctca gtgccctgta ccatgggtacc attgagtctc tgccaaacct caaggaaatc
 1380
 agcatacaca gtaaccccat cagggtgtgac tgtgtcatcc gttggatgaa catgaacaaa
 1440
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 1620
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 1680
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 1740
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 1800
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 1860
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 1920
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 1980
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 2040
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 2160
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 2220
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 2340
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 2400
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 2460
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 2580
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 2640
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 2700
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 2760
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 2820
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 2880

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<210> 4554

<211> 705

<212> PRT

<213> Homo sapiens

<400> 4554

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Leu | Arg | Ile | His | Val | Leu | Leu | Gly | Leu | Ala | Ile | Thr | Thr | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Gln | Ala | Val | Asp | Lys | Lys | Val | Asp | Cys | Pro | Arg | Leu | Cys | Thr | Cys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Ile | Arg | Pro | Trp | Phe | Thr | Pro | Arg | Ser | Ile | Tyr | Met | Glu | Ala | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Thr | Val | Asp | Cys | Asn | Asp | Leu | Gly | Leu | Leu | Thr | Phe | Pro | Ala | Arg | Leu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Ala | Asn | Thr | Gln | Ile | Leu | Leu | Leu | Gln | Thr | Asn | Asn | Ile | Ala | Lys |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ile | Glu | Tyr | Ser | Thr | Asp | Phe | Pro | Val | Asn | Leu | Thr | Gly | Leu | Asp | Leu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ser | Gln | Asn | Asn | Leu | Ser | Ser | Val | Thr | Asn | Ile | Asn | Val | Lys | Lys | Met |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Gln | Leu | Leu | Ser | Val | Tyr | Leu | Glu | Glu | Asn | Lys | Leu | Thr | Glu | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Pro | Glu | Lys | Cys | Leu | Ser | Glu | Leu | Ser | Asn | Leu | Gln | Glu | Leu | Tyr | Ile |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asn | His | Asn | Leu | Leu | Ser | Thr | Ile | Ser | Pro | Gly | Ala | Phe | Ile | Gly | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| His | Asn | Leu | Leu | Arg | Leu | His | Leu | Asn | Ser | Asn | Arg | Leu | Gln | Met | Ile |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Asn | Ser | Lys | Trp | Phe | Asp | Ala | Leu | Pro | Asn | Leu | Glu | Ile | Leu | Met | Ile |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Gly | Glu | Asn | Pro | Ile | Ile | Arg | Ile | Lys | Asp | Met | Asn | Phe | Lys | Pro | Leu |
| | 195 | | | | | | 200 | | | | 205 | | | | |
| Ile | Asn | Leu | Arg | Ser | Leu | Val | Ile | Ala | Gly | Ile | Asn | Leu | Thr | Glu | Ile |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Pro | Asp | Asn | Ala | Leu | Val | Gly | Leu | Glu | Asn | Leu | Glu | Ser | Ile | Ser | Phe |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Tyr | Asp | Asn | Arg | Leu | Ile | Lys | Val | Pro | His | Val | Ala | Leu | Gln | Lys | Val |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Val | Asn | Leu | Lys | Phe | Leu | Asp | Leu | Asn | Lys | Asn | Pro | Ile | Asn | Arg | Ile |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Arg | Arg | Gly | Asp | Phe | Ser | Asn | Met | Leu | His | Leu | Lys | Glu | Leu | Gly | Ile |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Asn | Asn | Met | Pro | Glu | Leu | Ile | Ser | Ile | Asp | Ser | Leu | Ala | Val | Asp | Asn |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Leu | Pro | Asp | Leu | Arg | Lys | Ile | Glu | Ala | Thr | Asn | Asn | Pro | Arg | Leu | Ser |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Tyr | Ile | His | Pro | Asn | Ala | Phe | Phe | Arg | Leu | Pro | Lys | Leu | Glu | Ser | Leu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Met | Leu | Asn | Ser | Asn | Ala | Leu | Ser | Ala | Leu | Tyr | His | Gly | Thr | Ile | Glu |

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          340          345          350
Ser Leu Pro Asn Leu Lys Glu Ile Ser Ile His Ser Asn Pro Ile Arg
          355          360          365
Cys Asp Cys Val Ile Arg Trp Met Asn Met Asn Lys Thr Asn Ile Arg
          370          375          380
Phe Met Glu Pro Asp Ser Leu Phe Cys Val Asp Pro Pro Glu Phe Gln
385          390          395          400
Gly Gln Asn Val Arg Gln Val His Phe Arg Asp Met Met Glu Ile Cys
          405          410          415
Leu Pro Leu Ile Ala Pro Glu Ser Phe Pro Ser Asn Leu Asn Val Glu
          420          425          430
Ala Gly Ser Tyr Val Ser Phe His Cys Arg Ala Thr Ala Glu Pro Gln
          435          440          445
Pro Glu Ile Tyr Trp Ile Thr Pro Ser Gly Gln Lys Leu Leu Pro Asn
          450          455          460
Thr Leu Thr Asp Lys Phe Tyr Val His Ser Glu Gly Thr Leu Asp Ile
465          470          475          480
Asn Gly Val Thr Pro Lys Glu Gly Gly Leu Tyr Thr Cys Ile Ala Thr
          485          490          495
Asn Leu Val Gly Ala Asp Leu Lys Ser Val Met Ile Lys Val Asp Gly
          500          505          510
Ser Phe Pro Gln Asp Asn Asn Gly Ser Leu Asn Ile Lys Ile Arg Asp
          515          520          525
Ile Gln Ala Asn Ser Val Leu Val Ser Trp Lys Ala Ser Ser Lys Ile
          530          535          540
Leu Lys Ser Ser Val Lys Trp Thr Ala Phe Val Lys Thr Glu Asn Ser
545          550          555          560
His Ala Ala Gln Ser Ala Arg Ile Pro Ser Asp Val Lys Val Tyr Asn
          565          570          575
Leu Thr His Leu Asn Pro Ser Thr Glu Tyr Lys Ile Cys Ile Asp Ile
          580          585          590
Pro Thr Ile Tyr Gln Lys Asn Arg Lys Lys Cys Val Asn Val Thr Thr
          595          600          605
Lys Gly Leu His Pro Asp Gln Lys Glu Tyr Glu Lys Asn Asn Thr Thr
          610          615          620
Thr Leu Met Ala Cys Leu Gly Gly Leu Leu Gly Ile Ile Gly Val Ile
625          630          635          640
Cys Leu Ile Ser Cys Leu Ser Pro Glu Met Asn Cys Asp Gly Gly His
          645          650          655
Ser Tyr Val Arg Asn Tyr Leu Gln Lys Pro Thr Phe Ala Leu Gly Glu
          660          665          670
Leu Tyr Pro Pro Leu Ile Asn Leu Trp Glu Ala Gly Lys Glu Lys Ser
          675          680          685
Thr Ser Leu Lys Val Lys Ala Thr Val Ile Gly Leu Pro Thr Asn Met
          690          695          700
Ser
705

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<210> 4555

<211> 1128

<212> DNA

<213> Homo sapiens

<400> 4555

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 120
 tggccacact ggggtggagg ctgccaccgc ggccctgatca tgccctctgt gcccacacag
 180
 gtctctgagc ggccctgat gttcctgttg gacactcctg gcgtgctggc tctcggatt
 240
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 300
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 420
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 480
 aacgttatte agcctaacta tctcgggca gcccgtagct tctcgcagac tttccgccgt
 540
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 960
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 1020
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<210> 4556

<211> 67

<212> PRT

<213> Homo sapiens

<400> 4556

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Ser | Val | Pro | Thr | Gln | Val | Ser | Glu | Arg | Pro | Leu | Met | Phe | Leu |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Leu | Asp | Thr | Pro | Gly | Val | Leu | Ala | Pro | Arg | Ile | Glu | Ser | Val | Glu | Thr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Leu | Lys | Leu | Ala | Leu | Cys | Gly | Thr | Val | Leu | Asp | His | Leu | Val | Gly |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Glu | Glu | Thr | Met | Ala | Asp | Tyr | Leu | Leu | Tyr | Thr | Leu | Asn | Lys | His | Gln |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Phe | Gly | | | | | | | | | | | | | |

65

<210> 4557
 <211> 446
 <212> DNA
 <213> Homo sapiens

<400> 4557
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 120
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 180
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 300
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 420
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<210> 4558
 <211> 148
 <212> PRT
 <213> Homo sapiens

<400> 4558
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 35 40 45
 Glu Thr Ser Arg Ala Phe Leu Pro Pro Pro Ser Asp Val Arg Val Arg
 50 55 60
 Ser Cys Leu Tyr His Trp Ser Ala Thr Ala His Leu Pro Pro Leu Ser
 65 70 75 80
 Lys Lys Pro Pro Cys Thr Ile Ser His Leu Arg Pro Leu Leu Gly Leu
 85 90 95
 Pro Pro Pro Ser Asp Leu His Ile Pro Ser Ala Ala Thr Leu Gly Pro
 100 105 110
 Cys Met His Trp Pro Pro Pro Ser Asp Ala Pro Cys Thr Ile Ser Leu
 115 120 125
 Ala Leu Asp Ala Leu Leu Gly Leu Pro Pro Pro Ser Asp His His Ile
 130 135 140
 Thr Ser Thr Arg
 145

<210> 4559
 <211> 919

<212> DNA

<213> Homo sapiens

<400> 4559

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120
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240
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360
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<211> 126

<212> PRT

<213> Homo sapiens

<400> 4560

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Gly Tyr Phe Glu Asn Ile Pro Lys Gly Leu Asp Gln Glu Gly Trp Thr
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Pro Val Ser Cys Met Glu Ala Thr Pro Asn Pro Met Glu Ser Leu Arg

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3755

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<213> Homo sapiens

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| 865 | | | | 870 | | | | | | 875 | | | | | 880 |
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| Ile | Arg | Ser | Gln | Gln | Gln | Gln | Leu | Val | Glu | Ser | Leu | His | Lys | Val | Leu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Gly | Asn | Gln | Thr | Leu | Thr | Val | Asn | Val | Glu | Gly | Thr | Lys | Thr | Leu |
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| Pro | Asp | Asp | Gln | Thr | Glu | Val | Val | Ile | Tyr | Val | Val | Glu | Arg | Ser | Pro |
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| Asn | Gly | Thr | Ser | Arg | Arg | Val | Pro | Ala | Thr | Thr | Leu | Tyr | Ala | His | Phe |
| | | | 100 | | | | 105 | | | | | | 110 | | |
| Glu | Gln | Ala | Asn | Ile | Lys | Thr | Gln | Leu | Gln | Gln | Leu | Gly | Val | Thr | Leu |
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| Gln | Asn | Pro | Pro | Ala | Gly | Val | Asp | Pro | Ile | Ile | Trp | Glu | Gln | Ala | Lys |
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| Val | Asp | Asn | Pro | Asp | Ser | Glu | Lys | Leu | Ile | Pro | Val | Pro | Met | Val | Gly |
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| Phe | Lys | Glu | Leu | Leu | Arg | Arg | Leu | Lys | Val | Gln | Asp | Gln | Met | Thr | Lys |
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| Gln | His | Gln | Thr | Arg | Leu | Asp | Ile | Ile | Ser | Glu | Asp | Ile | Ser | Glu | Leu |
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| Gln | Lys | Asn | Gln | Thr | Thr | Ser | Val | Ala | Lys | Ile | Ala | Gln | Tyr | Lys | Arg |
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| Glu | Ile | Gln | Arg | Lys | Ser | Gly | Tyr | Ala | Ile | Gln | Ala | Asp | Glu | Glu | Gln |
| | | | 245 | | | | | 250 | | | | | 255 | | |
| Leu | Arg | Val | Gln | Leu | Asp | Thr | Ile | Gln | Gly | Glu | Leu | Asn | Ala | Pro | Thr |
| | | | 260 | | | | 265 | | | | | 270 | | | |
| Gln | Phe | Lys | Gly | Arg | Leu | Asn | Glu | Leu | Met | Ser | Gln | Ile | Arg | Met | Gln |
| | | | 275 | | | | 280 | | | | 285 | | | | |
| Asn | His | Phe | Gly | Ala | Val | Arg | Ser | Glu | Glu | Arg | Tyr | Tyr | Ile | Asp | Ala |
| | 290 | | | | | 295 | | | | 300 | | | | | |
| Asp | Leu | Leu | Arg | Glu | Ile | Lys | Gln | His | Leu | Lys | Gln | Gln | Gln | Glu | Gly |
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<210> 4566

<211> 247

<212> PRT

<213> Homo sapiens

<400> 4566

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Val | Val | Arg | Glu | Gln | Ile | Thr | Arg | Ala | Leu | Pro | Ser | Lys | Pro |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Asn | Ser | Leu | Asp | Gln | Phe | Lys | Ser | Lys | Leu | Arg | Ser | Leu | Ser | Tyr | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Ile | Leu | Arg | Leu | Arg | Gln | Ser | Glu | Arg | Met | Ser | Gln | Asp | Asp | Phe |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Gln | Ser | Pro | Pro | Ile | Val | Glu | Leu | Arg | Glu | Lys | Ile | Gln | Pro | Glu | Ile |
| | | | 50 | | | | 55 | | | | 60 | | | | |
| Leu | Glu | Leu | Ile | Lys | Gln | Gln | Arg | Leu | Asn | Arg | Leu | Cys | Glu | Gly | Ser |
| 65 | | | | 70 | | | | 75 | | | | | 80 | | |
| Ser | Phe | Arg | Lys | Ile | Gly | Asn | Arg | Arg | Arg | Gln | Glu | Arg | Phe | Trp | Tyr |

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240
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720
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780

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<210> 4568
 <211> 120
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Val Gln Gln Arg Glu Leu Ala Val Thr Ser Pro Lys Asp Gly Ser Ile
 50 55 60
 Ser Ile Leu Gly Ser Asp Asp Ala Thr Thr Cys His Ile Val Val Leu
 65 70 75 80
 Arg His Thr Gly Asn Gly Ala Thr Cys Leu Thr His Cys Asp Gly Thr
 85 90 95
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<210> 4569
 <211> 1797
 <212> DNA
 <213> Homo sapiens

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 120
 gacaatggcc tcgggaccct catgctgctg ggcccaggag agacagttct gaggcagaaa
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420
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720
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<211> 141
 <212> PRT
 <213> Homo sapiens

<400> 4570
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 Gln Thr Trp His Ile Arg Phe Gly Asp Asn Gly Leu Gly Thr Leu Met
 35 40 45
 Leu Leu Gly Pro Gly Glu Thr Val Leu Arg Gln Lys Leu Gly Val Gln
 50 55 60
 Gly Gly Pro Arg Val Arg His Cys Gly Glu Gly Asn Ala Gly Glu Ser
 65 70 75 80
 Gly Pro Thr Leu Gln Leu Gly Thr Arg Gly Arg Lys Gln Arg Gly Gln
 85 90 95
 Ala Ser Val Pro Leu Pro Gln Glu Gln Thr Ser Gly Pro Gln Glu Gly
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 Lys Gly Trp Arg Ala Ala Gly Arg Gln Pro Ser Thr Arg
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<210> 4571
 <211> 1084
 <212> DNA
 <213> Homo sapiens

<400> 4571
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 180
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 360
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 420
 aaaacgcaac agaatcgcaa acttacggat ttctaccctg tccgaaggag ctccaggaag
 480
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 600
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 660
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 720

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<210> 4572

<211> 126

<212> PRT

<213> Homo sapiens

<400> 4572

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Ser | Pro | Ser | Arg | Ala | Asn | Arg | Pro | Pro | Glu | Lys | Lys | Ala | Gln | Gly |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | |
| Lys | Thr | Gln | Gln | Asn | Arg | Lys | Leu | Thr | Asp | Phe | Tyr | Pro | Val | Arg | Arg |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Ser | Ser | Arg | Lys | Ser | Lys | Ala | Glu | Leu | Gln | Ser | Glu | Glu | Arg | Lys | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Asp | Glu | Leu | Ile | Glu | Ser | Gly | Lys | Glu | Glu | Gly | Met | Lys | Ile | Asp |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Leu | Ile | Asp | Gly | Lys | Gly | Arg | Gly | Val | Ile | Ala | Thr | Lys | Gln | Phe | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Arg | Gly | Asp | Phe | Val | Val | Glu | Tyr | His | Gly | Asp | Leu | Ile | Glu | Ile | Thr |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Asp | Ala | Lys | Lys | Arg | Glu | Ala | Leu | Tyr | Ala | Gln | Asp | Pro | Ser | Thr | Gly |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Cys | Tyr | Met | Tyr | Tyr | Phe | Gln | Tyr | Leu | Ser | Lys | Thr | Tyr | Trp | | |
| | | 115 | | | | | 120 | | | | | 125 | | | |

<210> 4573

<211> 309

<212> DNA

<213> Homo sapiens

<400> 4573

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 180
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309

<210> 4574
<211> 103
<212> PRT
<213> Homo sapiens

<400> 4574
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35 40 45
Ala Gly Ala Val Gly Thr Pro Gly Lys Arg Gly Pro Ser Gly Pro Gln
50 55 60
Gly Leu Leu Gly Pro Pro Gly Pro Pro Ala Pro Val Gly Pro Pro His
65 70 75 80
Ala Arg Ile Ser Gln His Gly Asp Pro Leu Leu Ser Asn Thr Phe Thr
85 90 95
Glu Thr Asn Pro Phe Thr Arg
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<210> 4575
<211> 1068
<212> DNA
<213> Homo sapiens

<400> 4575
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<210> 4576

<211> 107

<212> PRT

<213> Homo sapiens

<400> 4576

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Trp | Asp | Pro | Gly | Ile | Val | Asp | Leu | Asp | Asp | Thr | Val | His | Gln | Leu |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Gln | Ala | Ala | Leu | His | Leu | Leu | Gln | Pro | Leu | Gly | His | Val | Ala | Arg | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Ala | Arg | His | Val | Ala | Thr | Ala | Gln | Gly | Glu | Val | Leu | Pro | Pro | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Leu | Gly | Gly | Ala | Ala | Gln | Arg | Ala | Arg | Gly | Gln | Ser | His | Gly | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Thr | Val | Pro | Gly | Asn | Ala | Pro | Ala | Ala | Asp | Leu | Leu | Ala | Leu | Ser | Pro |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Arg | Leu | Glu | Arg | Ser | Gly | Thr | Ile | Ser | Thr | His | Cys | Lys | Leu | Arg | Leu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Pro | Gly | Ser | Arg | His | Ser | Pro | Ala | Ser | Ala | Ser | | | | | |
| | | | 100 | | | | | 105 | | | | | | | |

<210> 4577

<211> 3525

<212> DNA

<213> Homo sapiens

<400> 4577

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<210> 4578

<211> 1007

<212> PRT

<213> Homo sapiens

<400> 4578

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Ser Val Gln Cys Thr Pro Pro Ser Ser Ser Ser Gly Ser Gln Gly Ser
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Gly Gln Lys Pro Trp Pro Trp His Leu Leu Leu Pro Ile Gly Asn Glu
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Gly Leu Ile His Glu Leu His Phe Met Asp Glu Leu Val Lys Val Glu
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Ala His Asp Ala Glu Val Leu Cys Leu Glu Tyr Ser Lys Pro Glu Thr
      100          105          110
Gly Leu Thr Leu Leu Ala Ser Ala Ser Arg Asp Arg Leu Ile His Val
      115          120          125
Leu Asn Val Glu Lys Asn Tyr Asn Leu Glu Gln Thr Leu Asp Asp His
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Ser Ser Ser Ile Thr Ala Ile Lys Phe Ala Gly Asn Arg Asp Ile Gln
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Gln Gly Ser Asp Gly Leu His Phe Val Arg Thr His His Val Ala Glu
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Lys Thr Thr Leu Tyr Asp Met Asp Ile Asp Ile Thr Gln Lys Tyr Val
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      260          265          270
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Met Pro Pro His Pro Pro Thr Pro Ser Asp Ser Glu Gly Lys Cys Ser
      290          295          300
Leu Ser Ala Leu Phe Ala Glu Ile Ile Thr Ser Met Lys Phe Thr Tyr
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      325          330          335
Trp His Leu Gly Pro Glu Ile Thr Asn Cys Met Lys Gln His Leu Leu
      340          345          350
Glu Ile Asp His Arg Gln Gln Gln Gln His Thr Asn Asp Lys Lys Arg
      355          360          365
Ser Gly His Pro Arg Ser Trp Gln Pro Leu Pro Val His Gln Arg Asp
      370          375          380
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Leu Pro Ala Asn Gln Arg Gln Ala Ala Thr Val Gly Lys Ala Ala Gly

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3775

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|---|------|------|
| 835 | 840 | 845 |
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| 850 | 855 | 860 |
| Asn Pro Gln Leu Pro Glu Ala Arg Pro Gly Ile Pro Gly Gly Thr Ala | | |
| 865 | 870 | 875 |
| Ser Leu Leu Glu Pro Thr Ser Gly Trp Gly Thr Ser Cys Thr Gly Cys | | |
| 885 | 890 | 895 |
| Arg Pro Pro Ser Lys Lys Pro Ser Thr Phe Thr Val Cys Trp Ser Pro | | |
| 900 | 905 | 910 |
| Val Ala Arg Trp Thr Pro Gly Ser Ser Arg His Gly Leu Ser Trp Ser | | |
| 915 | 920 | 925 |
| Pro Pro Ser Cys Gly Ser Thr Ala Ser Trp Arg Leu Asn Ala Trp Trp | | |
| 930 | 935 | 940 |
| Gly Leu Val Trp Pro Gln Pro Arg Leu Cys Pro Ala Gln Asp Pro Arg | | |
| 945 | 950 | 955 |
| Pro His Arg Arg Cys Thr Pro Trp Pro Ala Gln Thr Cys Arg Pro Cys | | |
| 965 | 970 | 975 |
| Trp Asn Thr Thr Arg Ser Cys Trp Cys Arg Pro Cys Gly Gly Arg His | | |
| 980 | 985 | 990 |
| Gly Gly Thr Glu Gly Ala Ala Pro Pro Pro Gln Pro Cys Cys Phe | | |
| 995 | 1000 | 1005 |

<210> 4579

<211> 321

<212> DNA

<213> Homo sapiens

<400> 4579

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<210> 4580

<211> 107

<212> PRT

<213> Homo sapiens

<400> 4580

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| 1 | 5 | 10 |
| Tyr Asp Cys His His Leu Ile Thr Val Ser Gly Asp Ser Cys Val Phe | | |
| 20 | 25 | 30 |
| Ile Trp His Leu Gly Pro Glu Ile Thr Asn Cys Met Lys Gln His Leu | | |
| 35 | 40 | 45 |
| Leu Glu Ile Asp His Arg Gln Gln Gln Gln His Thr Asn Asp Lys Lys | | |

| | | | | |
|---|-----|----|-----|----|
| 50 | | 55 | | 60 |
| Arg Ser Gly Pro Pro Arg Gln Asp Thr Tyr Val Ser Thr Pro Ser Glu | | | | |
| 65 | | 70 | | 75 |
| Ile His Ser Leu Ser Pro Gly Glu Gln Thr Glu Asp Asp Leu Glu Glu | | | | |
| | 85 | | 90 | 95 |
| Glu Cys Glu Pro Glu Glu Met Leu Lys Thr Pro | | | | |
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<210> 4581

<211> 1396

<212> DNA

<213> Homo sapiens

<400> 4581

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<210> 4582

<211> 354

<212> PRT

<213> Homo sapiens

<400> 4582

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| 1 | | | | 5 | | | | | 10 | | | | | | 15 | |
| Ser | Leu | Gln | Glu | Arg | Leu | Arg | Leu | Arg | Glu | Glu | Arg | Lys | Gln | Gln | Glu | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Glu | Leu | Met | Lys | Ala | Phe | Glu | Thr | Pro | Glu | Glu | Lys | Arg | Ala | Arg | Arg | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Leu | Ala | Lys | Lys | Glu | Ala | Lys | Glu | Arg | Lys | Lys | Arg | Glu | Lys | Met | Gly | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Trp | Gly | Glu | Glu | Tyr | Met | Gly | Tyr | Thr | Asn | Thr | Asp | Asn | Pro | Phe | Gly | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Asp | Asn | Asn | Leu | Leu | Gly | Thr | Phe | Ile | Trp | Asn | Lys | Ala | Leu | Glu | Lys | |
| | | | 85 | | | | | | 90 | | | | | 95 | | |
| Lys | Gly | Ile | Ser | His | Leu | Glu | Glu | Lys | Glu | Leu | Lys | Glu | Arg | Asn | Lys | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Arg | Ile | Gln | Glu | Asp | Asn | Arg | Leu | Glu | Leu | Gln | Lys | Val | Lys | Gln | Leu | |
| | 115 | | | | | | 120 | | | | | 125 | | | | |
| Arg | Leu | Glu | Arg | Glu | Arg | Glu | Lys | Ala | Met | Arg | Glu | Gln | Glu | Leu | Glu | |
| | 130 | | | | | 135 | | | | 140 | | | | | | |
| Met | Leu | Gln | Arg | Val | Lys | Gly | Thr | Glu | His | Phe | Lys | Thr | Trp | Glu | Glu | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Gln | Glu | Asp | Asn | Phe | His | Leu | Gln | Gln | Ala | Lys | Leu | Arg | Ser | Lys | Ile | |
| | | | 165 | | | | | | 170 | | | | | 175 | | |
| Arg | Ile | Arg | Asp | Gly | Arg | Ala | Lys | Pro | Ile | Asp | Leu | Leu | Ala | Lys | Tyr | |
| | | 180 | | | | | | 185 | | | | | 190 | | | |
| Ile | Ser | Ala | Glu | Asp | Asp | Asp | Leu | Ala | Gly | Glu | Met | His | Glu | Pro | Tyr | |
| | 195 | | | | | 200 | | | | | | 205 | | | | |
| Thr | Phe | Leu | Asn | Gly | Leu | Thr | Val | Ala | Asp | Met | Glu | Asp | Leu | Leu | Glu | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Asp | Ile | Gln | Val | Tyr | Met | Glu | Leu | Glu | Gln | Gly | Lys | Asn | Ala | Asp | Phe | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Trp | Arg | Asp | Met | Thr | Thr | Ile | Thr | Glu | Asp | Glu | Ile | Ser | Lys | Leu | Arg | |
| | | | 245 | | | | | | 250 | | | | | 255 | | |
| Lys | Leu | Glu | Ala | Ser | Gly | Lys | Gly | Pro | Gly | Glu | Arg | Arg | Glu | Gly | Val | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| Asn | Ala | Ser | Val | Ser | Ser | Asp | Val | Gln | Ser | Val | Phe | Lys | Gly | Lys | Thr | |
| | 275 | | | | | 280 | | | | | | 285 | | | | |
| Tyr | Asn | Gln | Leu | Gln | Val | Ile | Phe | Gln | Gly | Ile | Glu | Gly | Lys | Ile | Arg | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Ala | Gly | Gly | Pro | Asn | Leu | Asp | Met | Gly | Tyr | Trp | Glu | Ser | Leu | Leu | Gln | |

| | | | | | | |
|-------------|-------------|-----------------|-----------------|-------------|-----|-----|
| 305 | | 310 | | 315 | | 320 |
| Gln Leu Arg | Ala His Met | Ala Arg Ala Arg | Leu Arg Glu Arg | His Gln | | |
| | 325 | | 330 | | 335 | |
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| Glu Ser | | | | | | |

<210> 4583

<211> 3350

<212> DNA

<213> Homo sapiens

<400> 4583

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<210> 4584

<211> 923

<212> PRT

<213> Homo sapiens

<400> 4584

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| Ala | Leu | Tyr | His | Asp | Pro | Asp | Pro | Ser | Gly | Lys | Glu | Arg | Ala | Ser | Phe |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Trp | Leu | Gly | Glu | Leu | Gln | Arg | Ser | Val | His | Ala | Trp | Glu | Ile | Ser | Asp |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Leu | Leu | Gln | Ile | Arg | Gln | Asp | Val | Glu | Ser | Cys | Tyr | Phe | Ala | Ala |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Gln | Thr | Met | Lys | Met | Lys | Ile | Gln | Thr | Ser | Phe | Tyr | Glu | Leu | Pro | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Asp | Ser | His | Ala | Ser | Leu | Arg | Asp | Ser | Leu | Leu | Thr | His | Ile | Gln | Asn |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Leu | Lys | Asp | Leu | Ser | Pro | Val | Ile | Val | Thr | Gln | Leu | Ala | Leu | Ala | Ile |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Ala | Asp | Leu | Ala | Leu | Gln | Met | Pro | Ser | Trp | Lys | Gly | Cys | Val | Gln | Thr |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Leu | Val | Glu | Lys | Tyr | Ser | Asn | Asp | Val | Thr | Ser | Leu | Pro | Phe | Leu | Leu |
| | | 130 | | | | 135 | | | | | | 140 | | | |
| Glu | Ile | Leu | Thr | Val | Leu | Pro | Glu | Glu | Val | His | Ser | Arg | Ser | Leu | Arg |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Ile | Gly | Ala | Asn | Arg | Arg | Thr | Glu | Ile | Ile | Glu | Asp | Leu | Ala | Phe | Tyr |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Ser | Ser | Thr | Val | Val | Ser | Leu | Leu | Met | Thr | Cys | Val | Glu | Lys | Ala | Gly |
| | | 180 | | | | | | 185 | | | | | | 190 | |
| Thr | Asp | Glu | Lys | Met | Leu | Met | Lys | Val | Phe | Arg | Cys | Leu | Gly | Ser | Trp |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Phe | Asn | Leu | Gly | Val | Leu | Asp | Ser | Asn | Phe | Met | Ala | Asn | Asn | Lys | Leu |
| | | 210 | | | | 215 | | | | | | 220 | | | |
| Leu | Ala | Leu | Leu | Phe | Glu | Val | Leu | Gln | Gln | Asp | Lys | Thr | Ser | Ser | Asn |

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225          230          235          240
Leu His Glu Ala Ala Ser Asp Cys Val Cys Ser Ala Leu Tyr Ala Ile
          245          250          255
Glu Asn Val Glu Thr Asn Leu Pro Leu Ala Met Gln Leu Phe Gln Gly
          260          265          270
Val Leu Thr Leu Glu Thr Ala Tyr His Met Ala Val Ala Arg Glu Asp
          275          280          285
Leu Asp Lys Val Leu Asn Tyr Cys Arg Ile Phe Thr Glu Leu Cys Glu
          290          295          300
Thr Phe Leu Glu Lys Ile Val Cys Thr Pro Gly Gln Gly Leu Gly Asp
305          310          315          320
Leu Arg Thr Leu Glu Leu Leu Ile Cys Ala Gly His Pro Gln Tyr
          325          330          335
Glu Val Val Glu Ile Ser Phe Asn Phe Trp Tyr Arg Leu Gly Glu His
          340          345          350
Leu Tyr Lys Thr Asn Asp Glu Val Ile His Gly Ile Phe Lys Ala Tyr
          355          360          365
Ile Gln Arg Leu Leu His Ala Leu Ala Arg His Cys Gln Leu Glu Pro
          370          375          380
Asp His Glu Gly Val Pro Glu Glu Thr Asp Asp Phe Gly Glu Phe Arg
385          390          395          400
Met Arg Val Ser Asp Leu Val Lys Asp Leu Ile Phe Leu Ile Gly Ser
          405          410          415
Met Glu Cys Phe Ala Gln Leu Tyr Ser Thr Leu Lys Glu Gly Asn Pro
          420          425          430
Pro Trp Glu Val Thr Glu Ala Val Leu Phe Ile Met Ala Ala Ile Ala
          435          440          445
Lys Ser Val Asp Pro Glu Asn Asn Pro Thr Leu Val Glu Val Leu Glu
          450          455          460
Gly Val Val Arg Leu Pro Glu Thr Val His Thr Ala Val Arg Tyr Thr
465          470          475          480
Ser Ile Glu Leu Val Gly Glu Met Ser Glu Val Val Asp Arg Asn Pro
          485          490          495
Gln Phe Leu Asp Pro Val Leu Gly Tyr Leu Met Lys Gly Leu Cys Glu
          500          505          510
Lys Pro Leu Ala Ser Ala Ala Ala Lys Ala Ile His Asn Ile Cys Ser
          515          520          525
Val Cys Arg Asp His Met Ala Gln His Phe Asn Gly Leu Leu Glu Ile
          530          535          540
Ala Arg Ser Leu Asp Ser Phe Leu Leu Ser Pro Glu Ala Ala Val Gly
545          550          555          560
Leu Leu Lys Gly Thr Ala Leu Val Leu Ala Arg Leu Pro Leu Asp Lys
          565          570          575
Ile Thr Glu Cys Leu Ser Glu Leu Cys Ser Val Gln Val Met Ala Leu
          580          585          590
Lys Lys Leu Leu Ser Gln Glu Pro Ser Asn Gly Ile Ser Ser Asp Pro
          595          600          605
Thr Val Phe Leu Asp Arg Leu Ala Val Ile Phe Arg His Thr Asn Pro
          610          615          620
Ile Val Glu Asn Gly Gln Thr His Pro Cys Gln Lys Val Ile Gln Glu
625          630          635          640
Ile Trp Pro Val Leu Ser Glu Thr Leu Asn Lys His Arg Ala Asp Asn
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<210> 4585
<211> 1952
<212> DNA
<213> Homo sapiens
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3783

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<210> 4586

<211> 530

<212> PRT

<213> Homo sapiens

<400> 4586

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      20           25           30
Lys Asp Val His Lys Gly Val Gly Ile Ile Phe Ser Ser Ser Pro
 35           40           45
Ile Leu Asp Leu Ser Glu Ser Gly Leu Cys Arg Leu Glu Glu Val Phe
 50           55           60
Arg Ile Pro Ser Leu Gln Gln Leu His Leu Gln Arg Asn Ala Leu Cys
 65           70           75           80
Val Ile Pro Gln Asp Phe Phe Gln Leu Leu Pro Asn Leu Thr Trp Leu
      85           90           95
Asp Leu Arg Tyr Asn Arg Ile Lys Ala Leu Pro Ser Gly Ile Gly Ala
      100          105          110
His Gln His Leu Lys Thr Leu Leu Leu Glu Arg Asn Pro Ile Lys Met
      115          120          125
Leu Pro Val Glu Leu Gly Ser Val Thr Thr Leu Lys Ala Leu Asn Leu
      130          135          140
Arg His Cys Pro Leu Glu Phe Pro Pro Gln Leu Val Val Gln Lys Gly
      145          150          155          160
Leu Val Ala Ile Gln Arg Phe Leu Arg Met Trp Ala Val Glu His Ser
      165          170          175
Leu Pro Arg Asn Pro Thr Ser Gln Glu Ala Pro Pro Val Arg Glu Met
      180          185          190
Thr Leu Arg Asp Leu Pro Ser Pro Gly Leu Glu Leu Ser Gly Asp His
      195          200          205
Ala Ser Asn Gln Gly Ala Val Asn Ala Gln Asp Pro Glu Gly Ala Val
      210          215          220
Met Lys Glu Lys Ala Ser Phe Leu Pro Pro Val Glu Lys Pro Asp Leu
      225          230          235          240
Ser Glu Leu Arg Lys Ser Ala Asp Ser Ser Glu Asn Trp Pro Ser Glu
      245          250          255
Glu Glu Ile Arg Arg Phe Trp Lys Leu Arg Gln Glu Ile Val Glu His
      260          265          270
Val Lys Ala Asp Val Leu Gly Asp Gln Leu Leu Thr Arg Glu Leu Pro
      275          280          285
Pro Asn Leu Lys Ala Ala Leu Asn Ile Glu Lys Glu Leu Pro Lys Pro
      290          295          300
Arg His Val Phe Arg Arg Lys Thr Ala Ser Ser Arg Ser Ile Leu Pro
      305          310          315          320
Asp Leu Leu Ser Pro Tyr Gln Met Ala Ile Arg Ala Lys Arg Leu Glu
      325          330          335
Glu Ser Arg Ala Ala Ala Leu Arg Glu Leu Gln Glu Lys Gln Ala Leu
      340          345          350
Met Glu Gln Gln Arg Arg Glu Lys Arg Ala Leu Gln Glu Trp Arg Glu
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Arg Ala Gln Arg Met Arg Lys Arg Lys Glu Glu Leu Ser Lys Leu Leu
      370          375          380
Pro Pro Arg Arg Ser Met Val Ala Ser Lys Ile Pro Ser Ala Thr Asp

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385          390          395          400
Leu Ile Asp Asn Arg Lys Val Pro Leu Asn Pro Pro Gly Lys Met Lys
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Pro Ser Lys Glu Lys Ser Pro Gln Ala Ser Lys Glu Met Ser Ala Leu
          420          425          430
Gln Glu Arg Asn Leu Glu Glu Lys Ile Lys Gln His Val Leu Gln Met
          435          440          445
Arg Glu Gln Arg Arg Phe His Gly Gln Ala Pro Leu Glu Glu Met Arg
          450          455          460
Lys Ala Ala Glu Asp Leu Glu Ile Ala Thr Glu Leu Gln Asp Glu Val
465          470          475          480
Leu Lys Leu Lys Leu Gly Leu Thr Leu Asn Lys Asp Arg Arg Arg Ala
          485          490          495
Ala Leu Thr Gly Asn Leu Ser Leu Gly Leu Pro Ala Ala Gln Pro Gln
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Tyr Gln
530

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<210> 4587

<211> 1723

<212> DNA

<213> Homo sapiens

<400> 4587

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720
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840

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<210> 4588

<211> 328

<212> PRT

<213> Homo sapiens

<400> 4588

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| 1 | | | | 5 | | | | 10 | | | | | 15 | |
| Ser | Lys | Lys | Asn | Gln | Pro | Pro | Ser | Lys | Ala | Pro | Lys | Leu | His | Ser |
| | | | 20 | | | | | 25 | | | | 30 | | |
| Pro | Ser | Lys | Lys | Gly | Glu | Thr | Pro | Thr | Val | Asp | Gly | Thr | Trp | Lys |
| | | 35 | | | | | 40 | | | | | 45 | | |
| Pro | Ser | Phe | Pro | Lys | Lys | Lys | Thr | Ala | Ala | Ser | Ser | Asn | Gly | Ser |
| | | 50 | | | | 55 | | | | 60 | | | | |
| Gln | Pro | Leu | Asp | Lys | Lys | Ala | Ala | Val | Ser | Trp | Leu | Thr | Pro | Ala |
| 65 | | | | | 70 | | | | 75 | | | | 80 | |
| Ser | Lys | Lys | Ala | Asp | Ser | Val | Ala | Ala | Lys | Val | Asp | Leu | Leu | Gly |
| | | | 85 | | | | | 90 | | | | 95 | | |
| Phe | Gln | Ser | Ala | Leu | Pro | Lys | Ile | Asn | Ser | His | Pro | Thr | Arg | Ser |
| | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Lys | Ser | Ser | Gln | Lys | Lys | Ser | Ser | Lys | Lys | Asn | His | Pro | Gln |
| | | 115 | | | | | 120 | | | | 125 | | | |
| Asn | Ala | Pro | Gln | Asn | Ser | Thr | Gln | Ala | His | Ser | Glu | Asn | Lys | Cys |

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 Pro Pro Cys His Ile Val Asp Tyr Arg Thr Arg Trp Ser Gly Ile Arg
 195 200 205
 Lys Gln His Met Val Asn Ala Thr Pro Phe Lys Ile Ala Arg Gly Gln
 210 215 220
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 Asn Ala Thr Met Ser Leu Lys His Leu Thr Lys Lys Leu Leu Asn Arg
 275 280 285
 Asp Ile Gln Val Gly Lys Ser Gly His Ser Ser Val Glu Asp Ala Gln
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<210> 4589

<211> 585

<212> DNA

<213> Homo sapiens

<400> 4589

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<211> 121
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 His Thr Leu Ser Pro Leu Ser Phe Arg Cys Ser Gln Arg Glu Pro Gln
 50 55 60
 Gly Phe Arg Pro Gly Met Arg Cys Gly Gly Ser Ser Leu Gly Arg Thr
 65 70 75 80
 Cys Cys Ser Pro Thr Arg Arg Ala Cys Val Val Ser Arg Ala Val Thr
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 Val Ala Ser Gly Phe Leu Gln Ala Ala Ala Arg Leu Gly Pro Ser Leu
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 <211> 496
 <212> DNA
 <213> Homo sapiens

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<210> 4592
 <211> 152
 <212> PRT
 <213> Homo sapiens

<400> 4592
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| | | | |
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| Arg Ser Ala Ala Glu Leu Ser Asn Cys Asp Arg Asp His Leu Ala Lys | | | |
| | 20 | 25 | 30 |
| Lys Ala Ser Ser Ile Tyr Ser Thr Ala Leu Cys Phe Gly Leu Lys Arg | | | |
| | 35 | 40 | 45 |
| Ala Pro Leu Trp Pro Ser Gly His Asp Arg Leu His Glu Thr Arg Lys | | | |
| | 50 | 55 | 60 |
| Leu Arg Cys Leu Ala Asp Arg Leu Val Ser Pro His Pro Ala Ser Ser | | | |
| 65 | | 70 | 75 |
| Pro Gly Ser Arg Tyr Leu Pro Gln Asn Ser Leu His Lys Trp Pro Gln | | | |
| | 85 | 90 | 95 |
| Ala Cys Ala Gly Leu Trp Gly Phe Leu Pro Trp Ala Val Val Leu Gly | | | |
| | 100 | 105 | 110 |
| Met Cys Ser Pro Gln Ala Asp Gly Gln Leu Trp Glu Gly Trp Ser Cys | | | |
| | 115 | 120 | 125 |
| Arg Leu Gly Ile His Thr Pro Ala His Val Ala Ser Pro Ser Ala Val | | | |
| | 130 | 135 | 140 |
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<210> 4593

<211> 4783

<212> DNA

<213> Homo sapiens

<400> 4593

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840

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<210> 4594

<211> 1145

<212> PRT

<213> Homo sapiens

<400> 4594

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Ser | Asn | Pro | Phe | Leu | Ala | Phe | Val | Glu | Lys | Val | Glu | His | Ser | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Ser | Ser | Phe | Ala | Ser | Gln | Ala | Ser | Gly | Ser | Ser | Ser | Ser | Ala | Thr |
| | | | 35 | | | | 40 | | | | | | 45 | | |
| Thr | Val | Thr | Ser | Lys | Val | Ala | Pro | Ser | Trp | Pro | Glu | Ser | His | Ser | Ser |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Ala | Asp | Ser | Ala | Ser | Leu | Ala | Lys | Lys | Lys | Pro | Leu | Phe | Ile | Thr | Thr |
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| Asp | Ser | Ser | Lys | Leu | Val | Ser | Gly | Val | Leu | Gly | Ser | Ala | Leu | Thr | Ser |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Gly | Gly | Pro | Ser | Leu | Ser | Ala | Met | Gly | Asn | Gly | Arg | Ser | Ser | Ser | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Thr | Ser | Ser | Leu | Thr | Gln | Pro | Ile | Glu | Met | Pro | Thr | Leu | Ser | Ser | Ser |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Pro | Thr | Glu | Glu | Arg | Pro | Thr | Val | Gly | Pro | Gly | Gln | Gln | Asp | Asn | Pro |
| | | | 130 | | | | 135 | | | | 140 | | | | |
| Leu | Leu | Lys | Thr | Phe | Ser | Asn | Val | Phe | Gly | Arg | His | Ser | Gly | Gly | Phe |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Leu | Ser | Ser | Pro | Ala | Asp | Phe | Ser | Gln | Glu | Asn | Lys | Ala | Pro | Phe | Glu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
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3794

| | | |
|---|------|------|
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| Gly Ser Leu Arg Ser Val Leu Asn Lys Glu Ser His Ser Pro Phe Gly | | |
| 625 | 630 | 635 |
| Leu Asp Ser Phe Asn Ser Thr Ala Lys Val Ser Pro Leu Thr Pro Lys | | 640 |
| | 645 | 650 |
| Leu Phe Asn Ser Leu Leu Leu Gly Pro Thr Ala Ser Asn Asn Lys Thr | | 655 |
| | 660 | 665 |
| Glu Gly Ser Ser Leu Arg Asp Leu Leu His Ser Gly Pro Gly Lys Leu | | 670 |
| | 675 | 680 |
| Pro Gln Thr Pro Leu Asp Thr Gly Ile Pro Phe Pro Pro Val Phe Ser | | 685 |
| | 690 | 695 |
| Thr Ser Ser Ala Gly Val Lys Ser Lys Ala Ser Leu Pro Asn Phe Leu | | 700 |
| 705 | 710 | 715 |
| Asp His Ile Ile Ala Ser Val Val Glu Asn Lys Lys Thr Ser Asp Ala | | 720 |
| | 725 | 730 |
| Ser Lys Arg Ala Cys Asn Leu Thr Asp Thr Gln Lys Glu Val Lys Glu | | 735 |
| | 740 | 745 |
| Met Val Met Gly Leu Asn Val Leu Asp Pro His Thr Ser His Ser Trp | | 750 |
| | 755 | 760 |
| Leu Cys Asp Gly Arg Leu Leu Cys Leu His Asp Pro Ser Asn Lys Asn | | 765 |
| | 770 | 775 |
| Asn Trp Lys Ile Phe Arg Glu Cys Trp Lys Gln Gly Gln Pro Val Leu | | 780 |
| 785 | 790 | 795 |
| Val Ser Gly Val His Lys Lys Leu Lys Ser Glu Leu Trp Lys Pro Glu | | 800 |
| | 805 | 810 |
| Ala Phe Ser Gln Glu Phe Gly Asp Gln Asp Val Asp Leu Val Asn Cys | | 815 |
| | 820 | 825 |
| Arg Asn Cys Ala Ile Ile Ser Asp Val Lys Val Arg Asp Phe Trp Asp | | 830 |
| | 835 | 840 |
| Gly Phe Glu Ile Ile Cys Lys Arg Leu Arg Ser Glu Asp Gly Gln Pro | | 845 |
| | 850 | 855 |
| Met Val Leu Lys Leu Lys Asp Trp Pro Pro Gly Glu Asp Phe Arg Asp | | 860 |
| 865 | 870 | 875 |
| Met Met Pro Thr Arg Phe Glu Asp Leu Met Glu Asn Leu Pro Leu Pro | | 880 |
| | 885 | 890 |
| Glu Tyr Thr Lys Arg Asp Gly Arg Leu Asn Leu Ala Ser Arg Leu Pro | | 895 |
| | 900 | 905 |
| Ser Tyr Phe Val Arg Pro Asp Leu Gly Pro Lys Met Tyr Asn Ala Tyr | | 910 |
| | 915 | 920 |
| Gly Leu Ile Thr Ala Glu Asp Arg Arg Val Gly Thr Thr Asn Leu His | | 925 |
| | 930 | 935 |
| Leu Asp Val Ser Asp Ala Val Asn Val Met Val Tyr Val Gly Ile Pro | | 940 |
| 945 | 950 | 955 |
| Ile Gly Glu Gly Ala His Asp Glu Glu Val Leu Lys Thr Ile Asp Glu | | 960 |
| | 965 | 970 |
| Gly Asp Ala Asp Glu Val Thr Lys Gln Arg Ile His Asp Gly Lys Glu | | 975 |
| | 980 | 985 |
| Lys Pro Gly Ala Leu Trp His Ile Tyr Ala Ala Lys Asp Ala Glu Lys | | 990 |
| | 995 | 1000 |
| Ile Arg Glu Leu Leu Arg Lys Val Gly Glu Glu Gln Gly Gln Glu Asn | | 1005 |
| 1010 | 1015 | 1020 |
| Pro Pro Asp His Asp Pro Ile His Asp Gln Ser Trp Tyr Leu Asp Gln | | 1025 |
| 1025 | 1030 | 1035 |
| Thr Leu Arg Lys Arg Leu Tyr Glu Glu Tyr Gly Val Gln Gly Trp Ala | | 1040 |

| | | | |
|---|------|------|------|
| | 1045 | 1050 | 1055 |
| Ile Val Gln Phe Leu Gly Asp Ala Val Phe Ile Pro Ala Gly Ala Pro | | | |
| | 1060 | 1065 | 1070 |
| His Gln Val His Asn Leu Tyr Ser Cys Ile Lys Val Ala Glu Asp Phe | | | |
| | 1075 | 1080 | 1085 |
| Val Ser Pro Glu His Val Lys His Cys Phe Arg Leu Thr Gln Glu Phe | | | |
| | 1090 | 1095 | 1100 |
| Arg His Leu Ser Asn Thr His Thr Asn His Glu Asp Lys Leu Gln Val | | | |
| 1105 | 1110 | 1115 | 1120 |
| Lys Asn Ile Ile Tyr His Ala Val Lys Asp Ala Val Gly Thr Leu Lys | | | |
| | 1125 | 1130 | 1135 |
| Ala His Glu Ser Lys Leu Ala Arg Ser | | | |
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<210> 4595

<211> 935

<212> DNA

<213> Homo sapiens

<400> 4595

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300
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<210> 4596

<211> 169
 <212> PRT
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 35 40 45
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 50 55 60
 Gly Pro Ala Asp Pro Ala Ala Gln His Ser Arg Asp Gly Gln Gly Gly
 65 70 75 80
 Trp Pro Pro Ala Gln Gly Thr Ala Ser Thr Ala Gly Lys Ser Gly Ala
 85 90 95
 Pro Gly Ala Trp Ser Val Gly Gly Ala Thr Gly Pro Arg Gly Ala Lys
 100 105 110
 Gly Pro Arg Thr Gly Arg Pro Ala Pro Ser Pro Gly Ser Pro Pro Arg
 115 120 125
 Glu Ser Arg Cys Leu Ala Pro Gly Pro Ser Arg Leu Asp Pro Gly Pro
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<210> 4597
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 <213> Homo sapiens

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<210> 4598

<211> 135

<212> PRT

<213> Homo sapiens

<400> 4598

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Pro Gly Pro Trp Gly Val Gly Arg Gly Thr Cys Leu Thr Ala Gln Leu
      35           40           45
Leu Leu Ser Ala Pro Phe Cys Leu Leu Pro Ala Leu Ser Gln Ala Val
      50           55           60
Ser Pro Arg Asn Ser Leu Arg Asn Ile Leu Thr Leu Asn Ser Thr Ala
65           70           75           80
Glu Pro Ser Ser Trp Glu Ser Arg Glu Arg Pro Leu Gln Ser Arg Asn
      85           90           95
Val Tyr Ser Ser Ala Ser Phe Ser Glu His Leu Asp Gly Gly Cys Ser
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Val Asp Gln Ser Leu Arg Glu
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<210> 4599

<211> 2314

<212> DNA

<213> Homo sapiens

<400> 4599

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660
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720

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<210> 4600
 <211> 228
 <212> PRT
 <213> Homo sapiens

<400> 4600
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 35 40 45
 Phe Arg Met Glu Ser Gly Ile Glu Pro Ser Val Asp Leu Glu Thr Leu
 50 55 60
 Asp Glu Arg Ile Lys Ile Arg Glu Met Ile Leu Lys Gly Gln Ile Gln
 65 70 75 80
 Glu Ala Ile Ala Leu Ile Asn Ser Leu His Pro Glu Leu Leu Asp Thr
 85 90 95
 Asn Arg Tyr Leu Tyr Phe His Leu Gln Gln Gln His Leu Ile Glu Leu
 100 105 110
 Ile Arg Gln Arg Glu Thr Glu Ala Ala Leu Glu Phe Ala Gln Thr Gln
 115 120 125
 Leu Ala Glu Gln Gly Glu Glu Ser Arg Glu Cys Leu Thr Glu Met Glu
 130 135 140
 Arg Thr Leu Ala Leu Leu Ala Phe Asp Ser Pro Glu Glu Ser Pro Phe
 145 150 155 160
 Gly Asp Leu Leu His Thr Met Gln Arg Gln Lys Val Trp Ser Glu Val
 165 170 175
 Asn Gln Ala Val Leu Asp Tyr Glu Asn Arg Glu Ser Thr Pro Lys Leu
 180 185 190
 Ala Lys Leu Leu Lys Leu Leu Leu Trp Ala Gln Asn Glu Leu Asp Gln
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 Glu Glu Pro Lys
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<210> 4601
 <211> 916
 <212> DNA
 <213> Homo sapiens

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 180
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<210> 4602

<211> 305

<212> PRT

<213> Homo sapiens

<400> 4602

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Leu | Asn | Gly | Glu | Thr | Gln | Ile | Val | Ala | Asp | Glu | Ala | Phe | Cys | Asn |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Val | Arg | Ser | Tyr | Tyr | Glu | Val | Phe | Leu | Lys | Ser | Asp | Arg | Val | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Arg | Met | Val | Gln | Ser | Gly | Gly | Cys | Ser | Ala | Asn | Asp | Phe | Arg | Glu | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Phe | Lys | Lys | Asn | Ile | Glu | Lys | Arg | Val | Arg | Ser | Leu | Pro | Glu | Ile | Asp |
| 65 | | | | 70 | | | | | | 75 | | | | 80 | |
| Gly | Leu | Ser | Lys | Glu | Thr | Val | Leu | Ser | Ser | Trp | Ile | Ala | Lys | Tyr | Asp |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Ala | Ile | Tyr | Arg | Gly | Glu | Glu | Asp | Leu | Cys | Lys | Gln | Pro | Asn | Arg | Met |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Leu | Ser | Ala | Val | Ser | Glu | Leu | Ile | Leu | Ser | Lys | Glu | Gln | Leu | Tyr |
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| Ala | Ser | Arg | Phe | Thr | His | Thr | Phe | Pro | Pro | Arg | Ala | Thr | Gln | Cys | Leu |
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| Asp | Ser | Gly | Gly | Arg | Thr | Lys | Arg | Tyr | Val | Val | Phe | Asn | Asn | Gly | Thr |
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| Leu | Tyr | Phe | Asn | Glu | Val | Gly | Met | Arg | Glu | Glu | Gly | Asp | Tyr | Thr | Cys |
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| Phe | Ala | Glu | Asn | Gln | Val | Gly | Lys | Asp | Glu | Met | Arg | Val | Arg | Val | Lys |
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| Val | Val | Thr | Ala | Pro | Ala | Thr | Ile | Arg | Asn | Lys | Thr | Cys | Leu | Ala | Val |
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| Pro | Thr | Ser | Ser | Glu | Lys | Tyr | Gln | Ile | Tyr | Gln | Asp | Gly | Thr | Leu | Leu |
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Leu Thr Val Leu Glu Pro Met Glu Lys Pro Ile Phe His Asp Pro Ile
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305              310              315              320
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Pro Pro Gly Ala Gly Gln Gly Arg Phe Ser Trp Thr Leu Pro Asn Gly
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Met His Leu Glu Gly Pro Gln Thr Leu Gly Arg Val Ser Leu Leu Asp
      435              440              445
Asn Gly Thr Leu Thr Val Arg Glu Ala Ser Val Phe Asp Arg Gly Thr
      450              455              460
Tyr Val Cys Arg Met Glu Thr Glu Tyr Gly Pro Ser Val Thr Ser Ile
465              470              475              480
Pro Val Ile Val Ile Ala Tyr Pro Pro Arg Ile Thr Ser Glu Pro Thr
      485              490              495
Pro Val Ile Tyr Thr Arg Pro Gly Asn Thr Val Lys Leu Asn Cys Met
      500              505              510
Ala Met Gly Ile Pro Lys Ala Asp Ile Thr Trp Glu Leu Pro Asp Lys
      515              520              525
Ser His Leu Lys Ala Gly Val Gln Ala Arg Leu Tyr Gly Asn Arg Phe
      530              535              540
Leu His Pro Gln Gly Ser Leu Thr Ile Gln His Ala Thr Gln Arg Asp
545              550              555              560
Ala Gly Phe Tyr Lys Cys Met Ala Lys Asn Ile Leu Gly Ser Asp Ser
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Lys Thr Thr Tyr Ile His Val Phe
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<210> 4607

<211> 456

<212> DNA

<213> Homo sapiens

<400> 4607

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 240
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 360
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<210> 4608

<211> 107

<212> PRT

<213> Homo sapiens

<400> 4608

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Val | Arg | Asn | Lys | Pro | Val | Ala | Arg | Gln | Ala | Pro | Gly | Lys | Arg | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Cys | Asn | Cys | Arg | Gln | Glu | Met | Arg | Thr | Thr | Gln | Leu | Gly | Pro | Gly | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Gln | Met | Thr | Gln | Glu | Val | Val | Cys | Asp | Glu | Cys | Pro | Asn | Val | Lys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Val | Asn | Glu | Glu | Arg | Thr | Leu | Glu | Val | Glu | Ile | Glu | Pro | Gly | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Asp | Gly | Met | Glu | Tyr | Pro | Phe | Ile | Gly | Glu | Gly | Glu | Pro | His | Val |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Asp | Gly | Xaa | Pro | Gly | Asp | Leu | Arg | Phe | Arg | Ile | Lys | Val | Val | Lys | His |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Pro | Ile | Phe | Glu | Arg | Arg | Gly | Asp | Asp | Leu | Tyr | | | | | |
| | | | 100 | | | | | 105 | | | | | | | |

<210> 4609

<211> 904

<212> DNA

<213> Homo sapiens

<400> 4609

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 780
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<210> 4610

<211> 250

<212> PRT

<213> Homo sapiens

<400> 4610

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Ala | Ala | Leu | Gln | Met | Ala | Glu | Met | Asp | Pro | Val | Ala | Glu | Phe |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Pro | Gln | Pro | Pro | Gly | Ala | Ala | Arg | Trp | Ala | Glu | Val | Met | Ala | Arg | Phe |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Ala | Arg | Leu | Gly | Ala | Gln | Gly | Arg | Arg | Val | Val | Leu | Val | Thr | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Gly | Thr | Lys | Val | Pro | Leu | Glu | Ala | Arg | Pro | Val | Arg | Phe | Leu | Asp |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Asn | Phe | Ser | Ser | Gly | Arg | Arg | Gly | Ala | Thr | Ser | Ala | Glu | Ala | Phe | Leu |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ala | Ala | Gly | Tyr | Gly | Val | Leu | Phe | Leu | Tyr | Arg | Ala | Arg | Ser | Ala | Phe |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Pro | Tyr | Ala | His | Arg | Phe | Pro | Pro | Gln | Thr | Trp | Leu | Ser | Ala | Leu | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Ser | Gly | Pro | Ala | Leu | Ser | Gly | Leu | Leu | Ser | Leu | Glu | Ala | Glu | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Asn | Ala | Leu | Pro | Gly | Phe | Ala | Glu | Ala | Leu | Arg | Ser | Tyr | Gln | Glu | Ala |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ala | Ala | Ala | Gly | Thr | Phe | Leu | Ala | Val | Glu | Phe | Thr | Thr | Leu | Ala | Asp |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Tyr | Leu | His | Leu | Leu | Gln | Ala | Ala | Ala | Gln | Ala | Leu | Asn | Pro | Leu | Gly |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Pro | Ser | Ala | Met | Phe | Tyr | Leu | Ala | Ala | Ala | Val | Ser | Asp | Phe | Tyr | Val |
| | | 180 | | | | | | 185 | | | | 190 | | | |
| Pro | Val | Ser | Glu | Met | Pro | Glu | His | Lys | Ile | Gln | Ser | Ser | Gly | Gly | Pro |

| | | |
|---|-----|-----|
| 195 | 200 | 205 |
| Leu Gln Gly Lys Val Gln Leu Glu Asp Ile Leu His His Leu Glu Lys | | |
| 210 | 215 | 220 |
| Glu Glu Ile Asn Pro Leu Ala Thr Thr Glu Glu Gln Leu Cys Leu Val | | |
| 225 | 230 | 235 |
| Leu Ile Pro Ala Ser Thr Val Lys Thr Gly | | |
| 245 | 250 | |

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 <211> 1946
 <212> DNA
 <213> Homo sapiens

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 180
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 240
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 720
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 1380
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 1440
 aatatataca atcaagattc ttgtctccaa gaaacaaacc caaagccaat aaaagctata
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 1800
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 1860
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 1920
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 1946

<210> 4612

<211> 532

<212> PRT

<213> Homo sapiens

<400> 4612

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| Met | Arg | Pro | Asp | Trp | Lys | Ala | Gly | Ala | Gly | Pro | Gly | Gly | Pro | Pro | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Pro | Ala | Pro | Ser | Ser | Gln | Arg | Lys | Pro | Pro | Ala | Arg | Pro | Ser | Ala |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Ala | Ala | Ala | Ala | Ile | Ala | Val | Ala | Ala | Ala | Glu | Glu | Glu | Arg | Arg | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Arg | Gln | Arg | Asn | Arg | Leu | Arg | Leu | Glu | Glu | Asp | Lys | Pro | Ala | Val | Glu |
| | | 50 | | | | 55 | | | | 60 | | | | | |
| Arg | Cys | Leu | Glu | Glu | Leu | Val | Phe | Gly | Asp | Val | Glu | Asn | Asp | Glu | Asp |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ala | Leu | Leu | Arg | Arg | Leu | Arg | Gly | Pro | Arg | Val | Gln | Glu | His | Glu | Asp |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ser | Gly | Asp | Ser | Glu | Val | Glu | Asn | Glu | Ala | Lys | Gly | Asn | Phe | Pro | Pro |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Gln | Lys | Lys | Pro | Val | Trp | Val | Asp | Glu | Glu | Asp | Glu | Asp | Glu | Glu | Met |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Val | Asp | Met | Met | Asn | Asn | Arg | Phe | Arg | Lys | Asp | Met | Met | Lys | Asn | Ala |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Ser | Glu | Ser | Lys | Leu | Ser | Lys | Asp | Asn | Leu | Lys | Lys | Arg | Leu | Lys | Glu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Glu | Phe | Gln | His | Ala | Met | Gly | Gly | Val | Pro | Ala | Trp | Ala | Glu | Thr | Thr |

165 170 175
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 180 185 190
 Leu Leu Gln Arg Thr Gly Asn Phe Ile Ser Thr Ser Thr Ser Leu Pro
 195 200 205
 Arg Gly Ile Leu Lys Met Lys Asn Cys Gln His Ala Asn Ala Glu Arg
 210 215 220
 Pro Thr Val Ala Arg Ile Ser Ser Val Gln Phe His Pro Gly Ala Gln
 225 230 235 240
 Ile Val Met Val Ala Gly Leu Asp Asn Ala Val Ser Leu Phe Gln Val
 245 250 255
 Asp Gly Lys Thr Asn Pro Lys Ile Gln Ser Ile Tyr Leu Glu Arg Phe
 260 265 270
 Pro Ile Phe Lys Ala Cys Phe Ser Ala Asn Gly Glu Glu Val Leu Ala
 275 280 285
 Thr Ser Thr His Ser Lys Val Leu Tyr Val Tyr Asp Met Leu Ala Gly
 290 295 300
 Lys Leu Ile Pro Val His Gln Val Arg Gly Leu Lys Glu Lys Ile Val
 305 310 315 320
 Arg Ser Phe Glu Val Ser Pro Asp Gly Ser Phe Leu Leu Ile Asn Gly
 325 330 335
 Ile Ala Gly Tyr Leu His Leu Leu Ala Met Lys Thr Lys Glu Leu Ile
 340 345 350
 Gly Ser Met Lys Ile Asn Gly Arg Val Ala Ala Ser Thr Phe Ser Ser
 355 360 365
 Asp Ser Lys Lys Val Tyr Ala Ser Ser Gly Asp Gly Glu Val Tyr Val
 370 375 380
 Trp Asp Val Asn Ser Arg Lys Cys Leu Asn Arg Phe Val Asp Glu Gly
 385 390 395 400
 Ser Leu Tyr Gly Leu Ser Ile Ala Thr Ser Arg Asn Gly Gln Tyr Val
 405 410 415
 Ala Cys Gly Ser Asn Cys Gly Val Val Asn Ile Tyr Asn Gln Asp Ser
 420 425 430
 Cys Leu Gln Glu Thr Asn Pro Lys Pro Ile Lys Ala Ile Met Asn Leu
 435 440 445
 Val Thr Gly Val Thr Ser Leu Thr Phe Asn Pro Thr Thr Glu Ile Leu
 450 455 460
 Ala Ile Ala Ser Glu Lys Met Lys Glu Ala Val Arg Leu Val His Leu
 465 470 475 480
 Pro Ser Cys Thr Val Phe Ser Asn Phe Pro Val Ile Lys Asn Lys Asn
 485 490 495
 Ile Ser His Val His Thr Met Asp Phe Ser Pro Arg Ser Gly Tyr Phe
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 515 520 525
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<211> 454

<212> DNA

<213> Homo sapiens

<400> 4613

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 180
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 240
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 300
 tgacgttggg gccagacagg tgacaggaga gggagttggg cctcgtggg atagtggcaa
 360
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<210> 4614

<211> 117

<212> PRT

<213> Homo sapiens

<400> 4614

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Arg | Pro | Asn | Leu | Pro | Leu | Ser | Pro | Arg | Gly | Pro | Thr | Pro | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Val | Thr | Cys | Leu | Ala | Pro | Thr | Ser | Asn | Glu | Phe | Thr | Arg | Gly | Asn |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Phe | Thr | Asn | Gly | Asn | Leu | Thr | Met | Ser | Asn | Glu | Phe | His | Cys | Lys |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Asp | Phe | Leu | Ile | Phe | Thr | Thr | Gln | Ile | Leu | Thr | Ile | Leu | Gln | Leu | Arg |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Ser | Leu | Asn | Ile | Ile | Tyr | Asn | Lys | Gln | Asn | Leu | Val | Asn | Leu | Gln | Lys |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Asn | Ala | Leu | Lys | Lys | His | Gln | Ser | Leu | Cys | Met | Cys | Arg | Thr | Asp |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Pro | Ala | Pro | Gln | Gly | Asn | Thr | Ala | Gly | Thr | Val | Pro | Arg | Thr | Leu | Thr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Val | Ser | Leu | Leu | | | | | | | | | | | |
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<211> 1350

<212> DNA

<213> Homo sapiens

<400> 4615

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 120
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 180
 ttagaaatca gataatattt gctgttcgtc aagaatatgt cgagcttgga gatcagctcc
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 300
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 360
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 420
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 1020
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<210> 4616

<211> 188

<212> PRT

<213> Homo sapiens

<400> 4616

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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| 1 | | | | 5 | | | | | 10 | | | | 15 | | |
| Leu | Pro | Leu | Ser | Pro | Pro | Leu | Val | Glu | Asp | Ser | Ala | Phe | Glu | Pro | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Lys | Asp | Met | Asp | Glu | Val | Glu | Glu | Lys | Ser | Lys | Asp | Val | Ile | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Thr | Ala | Glu | Lys | Leu | Ser | Val | Asp | Glu | Val | Ser | Gln | Leu | Val | Ile |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ser | Pro | Leu | Cys | Gly | Ala | Ile | Ser | Leu | Phe | Val | Gly | Thr | Thr | Arg | Asn |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | 70 | | 75 | | 80 | | | | | | | | | |
| Asn | Phe | Glu | Gly | Lys | Lys | Val | Ile | Ser | Leu | Glu | Tyr | Glu | Ala | Tyr | Leu |
| | | 85 | | 90 | | 95 | | | | | | | | | |
| Pro | Met | Ala | Glu | Asn | Glu | Val | Arg | Lys | Ile | Cys | Ser | Asp | Ile | Arg | Gln |
| | | 100 | | 105 | | 110 | | | | | | | | | |
| Lys | Trp | Pro | Val | Lys | His | Ile | Ala | Val | Phe | His | Leu | Leu | Gly | Leu | Val |
| | | 115 | | 120 | | 125 | | | | | | | | | |
| Pro | Val | Ser | Glu | Ala | Ser | Thr | Val | Ile | Ala | Val | Ser | Ser | Ala | His | Arg |
| | | 130 | | 135 | | 140 | | | | | | | | | |
| Ala | Ala | Ser | Leu | Glu | Ala | Val | Ser | Tyr | Ala | Ile | Asp | Ser | Leu | Lys | Ala |
| | | 145 | | 150 | | 155 | | | | | | | | | |
| Lys | Val | Pro | Ile | Trp | Lys | Lys | Glu | Ile | Tyr | Glu | Glu | Ser | Ser | Thr | Trp |
| | | 165 | | 170 | | 175 | | | | | | | | | |
| Lys | Gly | Asn | Lys | Glu | Cys | Phe | Trp | Ala | Ser | Asn | Ser | | | | |
| | | 180 | | 185 | | | | | | | | | | | |

<210> 4617

<211> 2266

<212> DNA

<213> Homo sapiens

<400> 4617

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<210> 4618

<211> 197

<212> PRT

<213> Homo sapiens

<400> 4618

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<211> 103
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<213> Homo sapiens
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<400> 4620

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          20           25           30
Leu Gln Ala Arg Pro Asn Pro Arg Phe Pro Gly Arg Cys Thr Pro Gly
          35           40           45
Trp Glu Lys Leu Thr Asn Glu Ser Ser Trp Gln Pro Pro Gln Ala Pro
          50           55           60
Pro Asp Trp Ala Ser Trp Leu Cys Cys Gln Asp Tyr Asp Pro Leu Pro
65           70           75           80
Glu Ser Arg Arg Ser Pro Gln Ala Glu Arg Tyr Arg His Leu Cys Pro
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<210> 4621

<211> 2588

<212> DNA

<213> Homo sapiens

<400> 4621

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<210> 4622
<211> 403
<212> PRT
<213> Homo sapiens

<400> 4622

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 20           25           30
Ile Gly Lys Lys Gly Glu Thr Val Lys Arg Ile Arg Glu Gln Ser Ser
 35           40           45
Ala Arg Ile Thr Ile Ser Glu Gly Ser Cys Pro Glu Arg Ile Thr Thr
 50           55           60
Ile Thr Gly Ser Thr Ala Ala Val Phe His Ala Val Ser Met Ile Ala
 65           70           75           80
Phe Lys Leu Asp Glu Asp Leu Cys Ala Ala Pro Ala Asn Gly Gly Asn
 85           90           95
Val Ser Arg Pro Pro Val Thr Leu Arg Leu Val Ile Pro Ala Ser Gln
100           105           110
Cys Gly Ser Leu Ile Gly Lys Ala Gly Thr Lys Ile Lys Glu Ile Arg
115           120           125
Glu Thr Thr Gly Ala Gln Val Gln Val Ala Gly Asp Leu Leu Pro Asn
130           135           140
Ser Thr Glu Arg Ala Val Thr Val Ser Gly Val Pro Asp Ala Ile Ile
145           150           155           160
Leu Cys Val Arg Gln Ile Cys Ala Val Ile Leu Glu Ser Pro Pro Lys
165           170           175
Gly Ala Thr Ile Pro Tyr His Pro Ser Leu Ser Leu Gly Thr Val Leu
180           185           190
Leu Ser Ala Asn Gln Gly Phe Ser Val Gln Gly Gln Tyr Gly Ala Val
195           200           205
Thr Pro Ala Glu Val Thr Lys Leu Gln Gln Leu Ser Ser His Ala Val
210           215           220
Pro Phe Ala Thr Pro Ser Val Val Pro Gly Leu Asp Pro Gly Thr Gln
225           230           235           240
Thr Ser Ser Gln Glu Phe Leu Val Pro Asn Asp Leu Ile Gly Cys Val
245           250           255
Ile Gly Arg Gln Gly Ser Lys Ile Ser Glu Ile Arg Gln Met Ser Gly
260           265           270
Ala His Ile Lys Ile Gly Asn Gln Ala Glu Gly Ala Gly Glu Arg His
275           280           285
Val Thr Ile Thr Gly Ser Pro Val Ser Ile Ala Leu Ala Gln Tyr Leu
290           295           300
Ile Thr Ala Cys Leu Glu Thr Ala Lys Ser Thr Ser Gly Gly Thr Pro
305           310           315           320
Gly Ser Ala Pro Ala Asp Leu Pro Thr Pro Phe Ser Pro Pro Leu Thr
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<400> 4623
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<210> 4624

<211> 189

<212> PRT

<213> Homo sapiens

<400> 4624

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| Met | Lys | Ser | Lys | Lys | Lys | Val | Glu | Gln | Pro | Val | Ile | Glu | Glu | Pro | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Lys | Arg | Lys | Lys | Lys | Lys | Lys | Arg | Lys | Glu | Ser | Gly | Val | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Pro | Trp | Lys | Glu | Glu | Thr | Asp | Thr | Asp | Leu | Glu | Val | Val | Leu | Glu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Lys | Lys | Gly | Asn | Met | Asp | Glu | Ala | His | Ile | Asp | Gln | Val | Arg | Arg | Lys |
| | | | 50 | | | | 55 | | | | 60 | | | | |
| Ala | Leu | Gln | Glu | Glu | Ile | Asp | Arg | Glu | Ser | Gly | Lys | Thr | Glu | Ala | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Glu | Thr | Arg | Lys | Trp | Thr | Gly | Thr | Gln | Phe | Gly | Gln | Trp | Asp | Thr | Ala |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Gly | Phe | Glu | Asn | Glu | Asp | Gln | Lys | Leu | Lys | Phe | Leu | Arg | Leu | Met | Gly |

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Gly Phe Lys Asn Leu Ser Pro Ser Phe Ser Arg Pro Ala Ser Thr Ile
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Ala Arg Pro Asn Met Ala Leu Gly Lys Lys Ala Ala Asp Ser Leu Gln
          130          135          140
Gln Asn Leu Gln Arg Asp Tyr Asp Arg Ala Met Ser Trp Lys Tyr Ser
145          150          155          160
Arg Gly Ala Gly Leu Gly Phe Ser Thr Ala Pro Asn Lys Ile Phe Tyr
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<210> 4625

<211> 334

<212> DNA

<213> Homo sapiens

<400> 4625

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<210> 4626

<211> 111

<212> PRT

<213> Homo sapiens

<400> 4626

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20     25     30
Glu Gln Glu Tyr Lys Arg Lys Gln Leu Glu Glu Gln Arg Gln Ser Glu
35     40     45
Arg Leu Gln Arg Gln Leu Gln Gln Glu His Ala Tyr Leu Lys Ser Leu
50     55     60
Gln Gln Gln Gln Gln Gln Gln Gln Leu Gln Lys Gln Gln Gln Gln
65     70     75     80
Leu Leu Pro Gly Asp Arg Lys Pro Leu Tyr His Tyr Gly Arg Gly Met
85     90     95
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<210> 4627

<211> 1736

<212> DNA

<213> Homo sapiens

<400> 4627

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<210> 4628

<211> 469

<212> PRT

<213> Homo sapiens

<400> 4628

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| Met | Gly | Thr | Val | His | Ala | Arg | Ser | Leu | Glu | Pro | Leu | Pro | Ser | Ser | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Asp | Phe | Gly | Gly | Leu | Gly | Glu | Glu | Ala | Glu | Phe | Val | Glu | Val | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Glu | Ala | Lys | Gln | Glu | Ile | Leu | Glu | Asn | Lys | Asp | Val | Val | Val | Gln |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| His | Val | His | Phe | Asp | Gly | Leu | Gly | Arg | Thr | Lys | Asp | Asp | Ile | Ile | Ile |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Cys | Glu | Ile | Gly | Asp | Val | Phe | Lys | Ala | Lys | Asn | Leu | Ile | Glu | Val | Met |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Arg | Lys | Ser | His | Glu | Ala | Arg | Glu | Lys | Leu | Leu | Arg | Leu | Gly | Ile | Phe |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Arg | Gln | Val | Asp | Val | Leu | Ile | Asp | Thr | Cys | Gln | Gly | Asp | Gly | Ala | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Asn | Gly | Leu | Asp | Val | Thr | Phe | Glu | Val | Thr | Glu | Leu | Arg | Arg | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Thr | Gly | Ser | Tyr | Asn | Thr | Met | Val | Gly | Asn | Asn | Glu | Gly | Ser | Met | Val |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Leu | Gly | Leu | Lys | Leu | Pro | Asn | Leu | Leu | Gly | Arg | Ala | Glu | Lys | Val | Thr |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Phe | Gln | Phe | Ser | Tyr | Gly | Thr | Lys | Glu | Thr | Ser | Tyr | Gly | Leu | Ser | Phe |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Phe | Lys | Pro | Arg | Pro | Gly | Asn | Phe | Glu | Arg | Asn | Phe | Ser | Val | Asn | Leu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Tyr | Lys | Val | Thr | Gly | Gln | Phe | Pro | Trp | Ser | Ser | Leu | Arg | Glu | Thr | Asp |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Arg | Gly | Met | Ser | Ala | Glu | Tyr | Ser | Phe | Pro | Ile | Trp | Lys | Thr | Ser | His |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Thr | Val | Lys | Trp | Glu | Gly | Val | Trp | Arg | Glu | Leu | Gly | Cys | Leu | Ser | Arg |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Thr | Ala | Ser | Phe | Ala | Val | Arg | Lys | Glu | Ser | Gly | His | Ser | Leu | Lys | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ser | Leu | Ser | His | Ala | Met | Val | Ile | Asp | Ser | Arg | Asn | Ser | Ser | Ile | Leu |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Pro | Arg | Arg | Gly | Ala | Leu | Leu | Lys | Val | Asn | Gln | Glu | Leu | Ala | Gly | Tyr |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Thr | Gly | Gly | Asp | Val | Ser | Phe | Ile | Lys | Glu | Asp | Phe | Glu | Leu | Gln | Leu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Asn | Lys | Gln | Leu | Ile | Phe | Asp | Ser | Val | Phe | Ser | Ala | Ser | Phe | Trp | Gly |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Gly | Met | Leu | Val | Pro | Ile | Gly | Asp | Lys | Pro | Ser | Ser | Ile | Ala | Asp | Arg |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Phe | Tyr | Leu | Gly | Gly | Pro | Thr | Ser | Val | Arg | Gly | Phe | Ser | Met | His | Ser |
| | | | | 340 | | | | | 345 | | | | | 350 | |
| Ile | Gly | Pro | Gln | Ser | Glu | Gly | Asp | Tyr | Leu | Gly | Gly | Glu | Ala | Tyr | Trp |
| | | | | 355 | | | | | 360 | | | | | 365 | |
| Ala | Gly | Gly | Leu | His | Leu | Tyr | Thr | Pro | Leu | Pro | Phe | Arg | Pro | Gly | Gln |
| | | | | 370 | | | | | 375 | | | | | 380 | |
| Gly | Gly | Phe | Gly | Glu | Leu | Phe | Arg | Thr | His | Phe | Phe | Leu | Asn | Ala | Gly |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Asn | Leu | Cys | Asn | Leu | Asn | Tyr | Gly | Glu | Gly | Pro | Lys | Ala | His | Ile | Arg |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Lys | Leu | Ala | Glu | Cys | Ile | Arg | Trp | Ser | Tyr | Gly | Ala | Gly | Ile | Val | Leu |
| | | | | 420 | | | | | 425 | | | | | 430 | |
| Arg | Leu | Gly | Asn | Ile | Ala | Arg | Leu | Glu | Leu | Asn | Tyr | Cys | Val | Pro | Met |
| | | | | 435 | | | | | 440 | | | | | 445 | |
| Gly | Val | Gln | Thr | Gly | Asp | Arg | Ile | Cys | Asp | Gly | Val | Gln | Phe | Gly | Ala |
| | | | | 450 | | | | | 455 | | | | | 460 | |
| Gly | Ile | Arg | Phe | Leu | | | | | | | | | | | |
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<210> 4629

<211> 706

<212> DNA

<213> Homo sapiens

<400> 4629

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706

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<210> 4630

<211> 140
 <212> PRT
 <213> Homo sapiens

<400> 4630
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 35 40 45
 Ser Trp Ala Leu Arg Val Ser Val Phe Pro Gln Ile Gly Lys Met Arg
 50 55 60
 Gly Arg Gly Gly Tyr Trp Gly Gln Ala Ser Ala Gln Pro Trp Val Leu
 65 70 75 80
 Leu Glu Pro Gly Leu Glu Pro Glu Val Gly Arg Val Ser Lys Leu Ser
 85 90 95
 Ser Trp Ile Pro Ile Cys Arg Thr Ala Pro Arg Thr Arg Ser Gly Val
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 Arg Ala His Pro Leu Ala Arg Ile Leu Gly Ser Leu Gly His Lys Ala
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 130 135 140

<210> 4631
 <211> 2756
 <212> DNA
 <213> Homo sapiens

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 2340

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 2640
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<210> 4632

<211> 372

<212> PRT

<213> Homo sapiens

<400> 4632

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| Met | Ala | Ala | Glu | Arg | Gln | Glu | Ala | Leu | Arg | Glu | Phe | Val | Ala | Val | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Ala | Glu | Glu | Asp | Arg | Ala | Arg | Phe | Phe | Leu | Glu | Ser | Ala | Gly | Trp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Leu | Gln | Ile | Ala | Leu | Ala | Ser | Phe | Tyr | Glu | Asp | Gly | Gly | Asp | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Ile | Val | Thr | Ile | Ser | Gln | Ala | Thr | Pro | Ser | Ser | Val | Ser | Arg | Gly |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Thr | Ala | Pro | Ser | Asp | Asn | Arg | Val | Thr | Ser | Phe | Arg | Asp | Leu | Ile | His |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Asp | Gln | Asp | Glu | Asp | Glu | Glu | Glu | Glu | Glu | Gly | Gln | Arg | Ser | Arg | Phe |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Tyr | Ala | Gly | Gly | Ser | Glu | Arg | Ser | Gly | Gln | Gln | Ile | Val | Gly | Pro | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Lys | Lys | Ser | Pro | Asn | Glu | Leu | Val | Asp | Asp | Leu | Phe | Lys | Gly | Ala |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Lys | Glu | His | Gly | Ala | Val | Ala | Val | Glu | Arg | Val | Thr | Lys | Ser | Pro | Gly |
| | | | 130 | | | | 135 | | | | 140 | | | | |
| Glu | Thr | Ser | Lys | Pro | Arg | Pro | Phe | Ala | Gly | Gly | Gly | Tyr | Arg | Leu | Gly |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
| Ala | Ala | Pro | Glu | Glu | Glu | Ser | Ala | Tyr | Val | Ala | Gly | Glu | Lys | Arg | Gln |
| | | | | 165 | | | | 170 | | | | | | 175 | |
| His | Ser | Ser | Gln | Asp | Val | His | Val | Val | Leu | Lys | Leu | Trp | Lys | Ser | Gly |
| | | | 180 | | | | 185 | | | | | 190 | | | |
| Phe | Ser | Leu | Asp | Asn | Gly | Glu | Leu | Arg | Ser | Tyr | Gln | Asp | Pro | Ser | Asn |
| | | | 195 | | | | 200 | | | | | 205 | | | |
| Ala | Gln | Phe | Leu | Glu | Ser | Ile | Arg | Arg | Gly | Glu | Val | Pro | Ala | Glu | Leu |
| | | | | | | 215 | | | | | 220 | | | | |
| Arg | Arg | Leu | Ala | His | Gly | Gly | Gln | Val | Asn | Leu | Asp | Met | Glu | Asp | His |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Arg | Asp | Glu | Asp | Phe | Val | Lys | Pro | Lys | Gly | Ala | Phe | Lys | Ala | Phe | Thr |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Gly | Glu | Gly | Gln | Lys | Leu | Gly | Ser | Thr | Ala | Pro | Gln | Val | Leu | Ser | Thr |

<210> 4634

<211> 242
 <212> PRT
 <213> Homo sapiens

<400> 4634
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 35 40 45
 Pro Ala Lys Cys Leu Thr Ile Met Trp Ala Leu Gly Gln Ala Gly Phe
 50 55 60
 Ala Asn Leu Thr Glu Gly Leu Lys Val Trp Leu Gly Ile Met Leu Pro
 65 70 75 80
 Val Leu Gly Ile Lys Ser Leu Ser Pro Phe Ala Ile Thr Tyr Leu Asp
 85 90 95
 Arg Leu Leu Leu Met His Pro Asn Leu Thr Lys Gly Phe Gly Met Ile
 100 105 110
 Gly Pro Lys Asp Phe Phe Pro Leu Leu Asp Phe Ala Tyr Met Pro Asn
 115 120 125
 Asn Ser Leu Thr Pro Ser Leu Gln Glu Gln Leu Cys Gln Leu Tyr Pro
 130 135 140
 Arg Leu Lys Val Leu Ala Phe Gly Ala Lys Pro Asp Ser Thr Leu His
 145 150 155 160
 Thr Tyr Phe Pro Ser Phe Leu Ser Arg Ala Thr Pro Ser Cys Pro Pro
 165 170 175
 Glu Met Lys Lys Glu Leu Leu Ser Ser Leu Thr Glu Cys Leu Thr Val
 180 185 190
 Asp Pro Leu Ser Ala Ser Val Trp Arg Gln Leu Tyr Pro Lys His Leu
 195 200 205
 Ser Gln Ser Ser Leu Leu Leu Glu His Leu Leu Ser Ser Trp Glu Gln
 210 215 220
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 225 230 235 240
 Lys Leu

<210> 4635
 <211> 384
 <212> DNA
 <213> Homo sapiens

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 240
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 300

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<210> 4636

<211> 108

<212> PRT

<213> Homo sapiens

<400> 4636

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| Met | Leu | Gly | Gly | Pro | Val | Cys | Ser | Tyr | Glu | Leu | Gly | Gly | Cys | Pro | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Arg | Val | Leu | Gly | Gln | Pro | Arg | Lys | Leu | Phe | Ser | Ile | Gly | Trp | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Glu | Val | Lys | Trp | Gly | Pro | Arg | Arg | Lys | Ala | Gly | Gly | Val | Trp | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Glu | Pro | Ala | Ser | Gly | Gly | Leu | Pro | Pro | Pro | Glu | Asp | Glu | Phe | Cys | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Gly | Val | Cys | Thr | Leu | Thr | Leu | Ala | His | Ser | Leu | Thr | His | Lys | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Leu | Thr | Leu | Cys | Phe | Phe | Trp | Gly | Glu | Gly | Gly | His | Trp | Gln | Lys | Arg |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Leu | Pro | Trp | Pro | Gln | Ser | Val | Pro | Ile | Leu | Ile | Phe | | | | |
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<210> 4637

<211> 2162

<212> DNA

<213> Homo sapiens

<400> 4637

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 180
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 660

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1980
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2162

<210> 4638

<211> 446
 <212> PRT
 <213> Homo sapiens

<400> 4638

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      35              40              45
Asp Gln Val His Gly Ser Asn Glu Ile Pro Asp Val Tyr Ile Val Glu
      50              55              60
Arg Leu Phe Ser Ser Ser Leu Val Val Val Val Ser His Thr Lys Pro
      65              70              75              80
Arg Gln Met Asn Val Tyr His Phe Lys Lys Gly Thr Glu Ile Cys Asn
      85              90              95
Tyr Ser Tyr Ser Ser Asn Ile Leu Ser Ile Arg Leu Asn Arg Gln Arg
      100             105             110
Leu Leu Val Cys Leu Glu Glu Ser Ile Tyr Ile His Asn Ile Lys Asp
      115             120             125
Met Lys Leu Leu Lys Thr Leu Leu Asp Ile Pro Ala Asn Pro Thr Gly
      130             135             140
Leu Cys Ala Leu Ser Ile Asn His Ser Asn Ser Tyr Leu Ala Tyr Pro
      145             150             155             160
Gly Ser Leu Thr Ser Gly Glu Ile Val Leu Tyr Asp Gly Asn Ser Leu
      165             170             175
Lys Thr Val Cys Thr Ile Ala Ala His Glu Gly Thr Leu Ala Ala Ile
      180             185             190
Thr Phe Asn Ala Ser Gly Ser Lys Leu Ala Ser Ala Ser Glu Lys Gly
      195             200             205
Thr Val Ile Arg Val Phe Ser Val Pro Asp Gly Gln Lys Leu Tyr Glu
      210             215             220
Phe Arg Arg Gly Met Lys Arg Tyr Val Thr Ile Ser Ser Leu Val Phe
      225             230             235             240
Ser Met Asp Ser Gln Phe Leu Cys Ala Ser Ser Asn Thr Glu Thr Val
      245             250             255
His Ile Phe Lys Leu Glu Gln Val Thr Asn Ser Arg Pro Glu Glu Pro
      260             265             270
Ser Thr Trp Ser Gly Tyr Met Gly Lys Met Phe Met Ala Ala Thr Asn
      275             280             285
Tyr Leu Pro Thr Gln Val Ser Asp Met Met His Gln Asp Arg Ala Phe
      290             295             300
Ala Thr Ala Arg Leu Asn Phe Ser Gly Gln Arg Asn Ile Cys Thr Leu
      305             310             315             320
Ser Thr Ile Gln Lys Leu Pro Arg Leu Leu Val Ala Ser Ser Ser Gly
      325             330             335
His Leu Tyr Met Tyr Asn Leu Asp Pro Gln Asp Gly Gly Glu Cys Val
      340             345             350
Leu Ile Lys Thr His Ser Leu Leu Gly Ser Gly Thr Thr Glu Glu Asn
      355             360             365
Lys Glu Asn Asp Leu Arg Pro Ser Leu Pro Gln Ser Tyr Ala Ala Thr
      370             375             380
Val Ala Arg Pro Ser Ala Ser Ser Ala Ser Thr Val Pro Gly Tyr Ser

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| | | | | | | |
|---|--|-----|--|-----|--|-----|
| 385 | | 390 | | 395 | | 400 |
| Glu Asp Gly Gly Ala Leu Arg Gly Glu Val Ile Pro Glu His Glu Phe | | | | | | |
| | | 405 | | 410 | | 415 |
| Ala Thr Gly Pro Val Cys Leu Asp Asp Glu Asn Glu Phe Pro Pro Ile | | | | | | |
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<210> 4639

<211> 1007

<212> DNA

<213> Homo sapiens

<400> 4639

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180
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420
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720
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<210> 4640

<211> 71

<212> PRT

<213> Homo sapiens

<400> 4640

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Pro Cys Phe Phe Leu Glu Arg Asn Ile Pro Asn Phe Leu Leu Leu Leu
      20             25             30
Leu Arg Arg Ser Phe Ala Leu Val Ala Gln Ala Arg Val Gln Trp Arg
      35             40             45
Asp Leu Ser Ser Leu Gln Pro Pro Pro Pro Arg Leu Lys Arg Phe Ser
      50             55             60
His Leu Ser Leu Pro Ser Ser
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<210> 4641

<211> 1873

<212> DNA

<213> Homo sapiens

<400> 4641

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240
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420
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960
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1080

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 1320
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 1380
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 1440
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 1680
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 1740
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 1873

<210> 4642

<211> 306

<212> PRT

<213> Homo sapiens

<400> 4642

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| Met | Gly | Cys | Asp | Gly | Gly | Thr | Ile | Pro | Lys | Arg | His | Glu | Leu | Val | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Pro | Lys | Lys | Val | Glu | Lys | Val | Asp | Lys | Asp | Ala | Glu | Leu | Val | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Trp | Asn | Tyr | Cys | Thr | Leu | Ser | Gln | Glu | Ile | Leu | Arg | Arg | Pro | Ile |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Val | Ala | Cys | Glu | Leu | Gly | Arg | Leu | Tyr | Asn | Lys | Asp | Ala | Val | Ile | Glu |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Phe | Leu | Leu | Asp | Lys | Ser | Ala | Glu | Lys | Ala | Leu | Gly | Lys | Ala | Ala | Ser |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| His | Ile | Lys | Ser | Ile | Lys | Asn | Val | Thr | Glu | Leu | Lys | Leu | Ser | Asp | Asn |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Pro | Ala | Trp | Glu | Gly | Asp | Lys | Gly | Asn | Thr | Lys | Gly | Asp | Lys | His | Asp |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Asp | Leu | Gln | Arg | Ala | Arg | Phe | Ile | Cys | Pro | Val | Val | Gly | Leu | Glu | Met |
| | 115 | | | | | 120 | | | | | 125 | | | | |
| Asn | Gly | Arg | His | Arg | Phe | Cys | Phe | Leu | Arg | Cys | Cys | Gly | Cys | Val | Phe |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ser | Glu | Arg | Ala | Leu | Lys | Glu | Ile | Lys | Ala | Glu | Val | Cys | His | Thr | Cys |

[illegible]

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<210> 4643
<211> 1125
<212> DNA
<213> Homo sapiens
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120
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240
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300
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360
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420
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480
aagctcgccc tcccctacct gcggaagagt caagggaatg tcatcaacat ctccagcctg
540
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600
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660
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720
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780

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 960
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 1125

<210> 4644

<211> 270

<212> PRT

<213> Homo sapiens

<400> 4644

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Thr | Gly | Thr | Arg | Tyr | Ala | Gly | Lys | Val | Val | Val | Val | Thr | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Gly | Arg | Gly | Ile | Gly | Ala | Gly | Ile | Val | Arg | Ala | Phe | Val | Asp | Ser |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Gly | Ala | Arg | Val | Val | Ile | Cys | Asp | Lys | Asp | Glu | Ser | Gly | Gly | Arg | Ala |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Leu | Glu | Gln | Glu | Leu | Pro | Gly | Ala | Val | Phe | Ile | Leu | Cys | Asp | Val | Thr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gln | Glu | Asp | Asp | Met | Lys | Thr | Leu | Val | Ser | Glu | Thr | Ile | Arg | Arg | Phe |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Gly | Arg | Leu | Asp | Cys | Val | Val | Asn | Asn | Ala | Gly | His | His | Pro | Pro | Pro |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Gln | Arg | Pro | Glu | Glu | Thr | Ser | Ala | Gln | Gly | Phe | Arg | Gln | Leu | Leu | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Asn | Leu | Leu | Gly | Thr | Tyr | Thr | Leu | Thr | Lys | Leu | Ala | Leu | Pro | Tyr |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Leu | Arg | Lys | Ser | Gln | Gly | Asn | Val | Ile | Asn | Ile | Ser | Ser | Leu | Val | Gly |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ala | Ile | Gly | Gln | Ala | Gln | Ala | Val | Pro | Tyr | Val | Ala | Thr | Lys | Gly | Ala |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Val | Thr | Ala | Met | Thr | Lys | Ala | Leu | Ala | Leu | Asp | Glu | Ser | Pro | Tyr | Gly |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Val | Arg | Val | Asn | Cys | Ile | Ser | Pro | Gly | Asn | Ile | Trp | Thr | Pro | Leu | Trp |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Glu | Glu | Leu | Ala | Ala | Leu | Met | Pro | Asp | Pro | Arg | Ala | Thr | Ile | Arg | Glu |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Gly | Met | Leu | Ala | Gln | Pro | Leu | Gly | Arg | Met | Gly | Gln | Pro | Ala | Glu | Val |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Gly | Ala | Ala | Ala | Val | Phe | Leu | Ala | Ser | Glu | Ala | Asn | Phe | Cys | Thr | Gly |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ile | Glu | Leu | Leu | Val | Thr | Gly | Gly | Ala | Glu | Leu | Gly | Tyr | Gly | Cys | Lys |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ala | Ser | Arg | Ser | Thr | Pro | Val | Asp | Ala | Pro | Asp | Ile | Pro | Ser | | |
| | | | 260 | | | | | 265 | | | | | 270 | | |

<210> 4645

<211> 1725

<212> DNA

<213> Homo sapiens

<400> 4645

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720
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1440

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<210> 4646

<211> 358

<212> PRT

<213> Homo sapiens

<400> 4646

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| Met | Ala | Pro | Gln | Asn | Leu | Ser | Thr | Phe | Cys | Leu | Leu | Leu | Leu | Tyr | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ile | Gly | Ala | Val | Ile | Ala | Gly | Arg | Asp | Phe | Tyr | Lys | Ile | Leu | Gly | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Arg | Ser | Ala | Ser | Ile | Lys | Asp | Ile | Lys | Lys | Ala | Tyr | Arg | Lys | Leu |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ala | Leu | Gln | Leu | His | Pro | Asp | Arg | Asn | Pro | Asp | Asp | Pro | Gln | Ala | Gln |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Glu | Lys | Phe | Gln | Asp | Leu | Gly | Ala | Ala | Tyr | Glu | Val | Leu | Ser | Asp | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Glu | Lys | Arg | Lys | Gln | Tyr | Asp | Thr | Tyr | Gly | Glu | Glu | Gly | Leu | Lys | Asp |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Gly | His | Gln | Ser | Ser | His | Gly | Asp | Ile | Phe | Ser | His | Phe | Phe | Gly | Asp |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Phe | Gly | Phe | Met | Phe | Gly | Gly | Thr | Pro | Arg | Gln | Gln | Asp | Arg | Asn | Ile |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Pro | Arg | Gly | Ser | Asp | Ile | Ile | Val | Asp | Leu | Glu | Val | Thr | Leu | Glu | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Val | Tyr | Ala | Gly | Asn | Phe | Val | Glu | Val | Val | Arg | Asn | Lys | Pro | Val | Ala |
| 145 | | | | 150 | | | | | | 155 | | | | 160 | |
| Arg | Gln | Ala | Pro | Gly | Lys | Arg | Lys | Cys | Asn | Cys | Arg | Gln | Glu | Met | Arg |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Thr | Thr | Gln | Leu | Gly | Pro | Gly | Arg | Phe | Gln | Met | Thr | Gln | Glu | Val | Val |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Cys | Asp | Glu | Cys | Pro | Asn | Val | Lys | Leu | Val | Asn | Glu | Glu | Arg | Thr | Leu |
| | 195 | | | | | | 200 | | | | 205 | | | | |
| Glu | Val | Glu | Ile | Glu | Pro | Gly | Val | Arg | Asp | Gly | Met | Glu | Tyr | Pro | Phe |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ile | Gly | Glu | Gly | Glu | Pro | His | Val | Asp | Gly | Glu | Pro | Gly | Asp | Leu | Arg |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Phe | Arg | Ile | Lys | Val | Val | Lys | His | Pro | Ile | Phe | Glu | Arg | Arg | Gly | Asp |
| | | | 245 | | | | | 250 | | | | | | 255 | |
| Asp | Leu | Tyr | Thr | Asn | Val | Thr | Ile | Ser | Leu | Val | Glu | Ser | Leu | Val | Gly |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Phe | Glu | Met | Asp | Ile | Thr | His | Leu | Asp | Gly | His | Lys | Val | His | Ile | Ser |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Arg | Asp | Lys | Ile | Thr | Arg | Pro | Gly | Ala | Lys | Leu | Trp | Lys | Lys | Gly | Glu |

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Thr Phe Asp Val Asp Phe Pro Lys Glu Gln Leu Thr Glu Glu Ala Arg
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Glu Gly Ile Lys Gln Leu Leu Lys Gln Gly Ser Val Gln Lys Val Tyr
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<210> 4647

<211> 791

<212> DNA

<213> Homo sapiens

<400> 4647

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<210> 4648

<211> 188

<212> PRT

<213> Homo sapiens

<400> 4648

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                20                25                30
Leu Asn Glu Lys Thr Pro Lys Gly His Ser Val Phe Met Asp Ile Phe
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    50                55                60
Arg Thr Ile Leu Met Arg Lys Glu Gly Glu Ser Ala Lys Ser Ile Asn
    65                70                75                80
Glu Met Leu Leu Ser Arg Leu Ser Arg Tyr Arg Ala Ser Pro Ser Ala
    85                90                95
Thr Leu Ala Ala Leu Thr Gly Ser Thr Ile Ser Asn Thr Leu Lys Glu
    100                105                110
Asp Gln Ala Ala Asn Thr Ser Cys Gly Leu Pro Leu Lys Met Leu Arg
    115                120                125
Lys Thr Pro Ile Tyr Thr Cys Gly Thr Tyr Leu Val Met Leu Val Pro
    130                135                140
Pro Pro Gly Gly Ser Gly Ser Ser Ala Thr Arg Ser Leu Phe Gly Gly
    145                150                155                160
Thr Ser Gly Leu Ser Ser Leu Lys Ile Leu Ala Ser Ser Leu Val Tyr
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<210> 4649

<211> 3276

<212> DNA

<213> Homo sapiens

<400> 4649

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780

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2400

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<210> 4650

<211> 965

<212> PRT

<213> Homo sapiens

<400> 4650

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Glu | Tyr | Met | Arg | Leu | Gly | Glu | Asn | Ile | Ile | Glu | Tyr | Ser | Arg | Asp |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Phe | Lys | Leu | Tyr | Ile | Thr | Thr | Arg | Leu | Arg | Asn | Pro | His | Tyr | Leu | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Val | Ala | Val | Lys | Val | Cys | Leu | Leu | Asn | Phe | Met | Ile | Thr | Pro | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Leu | Gln | Asp | Gln | Leu | Leu | Gly | Ile | Val | Ala | Ala | Lys | Glu | Lys | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Leu | Glu | Glu | Lys | Lys | Asn | Gln | Leu | Ile | Val | Glu | Ser | Ala | Lys | Asn |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Lys | Lys | His | Leu | Lys | Glu | Ile | Glu | Asp | Lys | Ile | Leu | Glu | Val | Leu | Ser |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Met | Ser | Lys | Gly | Asn | Ile | Leu | Glu | Asp | Glu | Thr | Ala | Ile | Lys | Val | Leu |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Ser | Ser | Ser | Lys | Val | Leu | Ser | Glu | Ile | Ser | Glu | Lys | Gln | Lys | Val | |
| | | 115 | | | | 120 | | | | | 125 | | | | |
| Ala | Ser | Met | Thr | Glu | Thr | Gln | Ile | Asp | Glu | Thr | Arg | Met | Gly | Tyr | Lys |

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130          135          140
Pro Val Ala Val His Ser Ala Thr Ile Phe Phe Cys Ile Ser Asp Leu
145          150          155          160
Ala Asn Ile Glu Pro Met Tyr Gln Tyr Ser Leu Thr Trp Phe Ile Asn
          165          170          175
Leu Tyr Met His Ser Leu Thr His Ser Thr Lys Ser Glu Glu Leu Asn
          180          185          190
Leu Arg Ile Lys Tyr Ile Ile Asp His Phe Thr Leu Ser Ile Tyr Asn
195          200          205
Asn Val Cys Arg Ser Leu Phe Glu Lys Asp Lys Leu Leu Phe Ser Leu
210          215          220
Leu Leu Thr Ile Gly Ile Met Lys Gln Lys Lys Glu Ile Thr Glu Glu
225          230          235          240
Val Trp Tyr Phe Leu Leu Thr Gly Gly Ile Ala Leu Asp Asn Pro Tyr
          245          250          255
Pro Asn Pro Ala Pro Gln Trp Leu Ser Glu Lys Ala Trp Ala Glu Ile
          260          265          270
Val Arg Ala Ser Ala Leu Pro Lys Leu His Gly Leu Met Glu His Leu
275          280          285
Glu Gln Asn Leu Gly Glu Trp Lys Leu Ile Tyr Asp Ser Ala Trp Pro
290          295          300
His Glu Glu Gln Leu Pro Gly Ser Trp Lys Phe Ser Gln Gly Leu Glu
305          310          315          320
Lys Met Val Ile Leu Arg Cys Leu Arg Pro Asp Lys Met Val Pro Ala
          325          330          335
Val Arg Glu Phe Ile Ala Glu His Met Gly Lys Leu Tyr Ile Glu Ala
          340          345          350
Pro Thr Phe Asp Leu Gln Gly Ser Tyr Asn Asp Ser Ser Cys Cys Ala
          355          360          365
Pro Leu Ile Phe Val Leu Ser Pro Ser Ala Asp Pro Met Ala Gly Leu
          370          375          380
Leu Lys Phe Ala Asp Asp Leu Gly Met Gly Gly Thr Arg Thr Gln Thr
385          390          395          400
Ile Ser Leu Gly Gln Gly Gln Gly Pro Ile Ala Ala Lys Met Ile Asn
          405          410          415
Asn Ala Ile Lys Asp Gly Thr Trp Val Val Leu Gln Asn Cys His Leu
          420          425          430
Ala Ala Ser Trp Met Pro Thr Leu Glu Lys Ile Cys Glu Glu Val Ile
          435          440          445
Val Pro Glu Ser Thr Asn Ala Arg Phe Arg Leu Trp Leu Thr Ser Tyr
          450          455          460
Pro Ser Glu Lys Phe Pro Val Ser Ile Leu Gln Asn Gly Ile Lys Met
465          470          475          480
Thr Asn Glu Pro Pro Lys Gly Leu Arg Ala Asn Leu Leu Arg Ser Tyr
          485          490          495
Leu Asn Asp Pro Ile Ser Asp Pro Val Phe Phe Gln Ser Cys Ala Lys
          500          505          510
Ala Val Met Trp Gln Lys Met Leu Phe Gly Leu Cys Phe Phe His Ala
          515          520          525
Val Val Gln Glu Arg Arg Asn Phe Gly Pro Leu Gly Trp Asn Ile Pro
          530          535          540
Tyr Glu Phe Asn Glu Ser Asp Leu Arg Ile Ser Met Trp Gln Ile Gln
545          550          555          560
Met Phe Leu Asn Asp Tyr Lys Glu Val Pro Phe Asp Ala Leu Thr Tyr

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565 570 575
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 580 585 590
 Arg Arg Leu Leu Leu Ser Leu Leu Ser Met Phe Tyr Cys Lys Glu Ile
 595 600 605
 Glu Glu Asp Tyr Tyr Ser Leu Ala Pro Gly Asp Thr Tyr Tyr Ile Pro
 610 615 620
 Pro His Gly Ser Tyr Gln Ser Tyr Ile Asp Tyr Leu Arg Asn Leu Pro
 625 630 635 640
 Ile Thr Ala His Pro Glu Val Phe Gly Leu His Glu Asn Ala Asp Ile
 645 650 655
 Thr Lys Asp Asn Gln Glu Thr Asn Gln Leu Phe Glu Gly Val Leu Leu
 660 665 670
 Thr Leu Pro Arg Gln Ser Gly Gly Ser Gly Lys Ser Pro Gln Glu Val
 675 680 685
 Val Glu Glu Leu Ala Gln Asp Ile Leu Ser Lys Leu Pro Arg Asp Phe
 690 695 700
 Asp Leu Glu Glu Val Met Lys Leu Tyr Pro Val Val Tyr Glu Glu Ser
 705 710 715 720
 Met Asn Thr Val Leu Arg Gln Glu Leu Ile Arg Phe Asn Arg Leu Thr
 725 730 735
 Lys Val Val Arg Arg Ser Leu Ile Asn Leu Gly Arg Ala Ile Lys Gly
 740 745 750
 Gln Val Leu Met Ser Ser Glu Leu Glu Val Phe Asn Ser Met Leu
 755 760 765
 Val Gly Lys Val Pro Ala Met Trp Ala Ala Lys Ser Tyr Pro Ser Leu
 770 775 780
 Lys Pro Leu Gly Gly Tyr Val Ala Asp Leu Leu Ala Arg Leu Thr Phe
 785 790 795 800
 Phe Gln Glu Trp Ile Asp Lys Gly Pro Pro Val Val Phe Trp Ile Ser
 805 810 815
 Gly Phe Tyr Phe Thr Gln Ser Phe Leu Thr Gly Val Ser Gln Asn Tyr
 820 825 830
 Ala Arg Lys Tyr Thr Ile Pro Ile Asp His Ile Gly Phe Glu Phe Glu
 835 840 845
 Val Thr Pro Gln Glu Thr Val Met Glu Asn Asn Pro Glu Asp Gly Ala
 850 855 860
 Tyr Ile Lys Gly Leu Phe Leu Glu Gly Ala Arg Trp Asp Arg Lys Thr
 865 870 875 880
 Met Gln Ile Gly Glu Ser Leu Pro Lys Ile Leu Tyr Asp Pro Leu Pro
 885 890 895
 Ile Ile Trp Leu Lys Pro Gly Glu Ser Ala Met Phe Leu His Gln Asp
 900 905 910
 Ile Tyr Val Cys Pro Val Tyr Lys Thr Ser Ala Arg Arg Gly Thr Leu
 915 920 925
 Ser Thr Thr Gly His Ser Thr Asn Tyr Val Leu Ser Ile Glu Leu Pro
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<210> 4651

<211> 869

<212> DNA

<213> Homo sapiens

<400> 4651

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240
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420
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480
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600
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720
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<210> 4652

<211> 289

<212> PRT

<213> Homo sapiens

<400> 4652

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20           25           30
Gly Ala Ala Ser Ala Val Ser Leu Ala Gly Ala Ser Leu Val Leu Ser
35           40           45
Leu Leu Gln Arg Val Ala Ser Tyr Ala Arg Lys Trp Gln Gln Met Arg
50           55           60
Pro Ile Pro Thr Val Ala Arg Ala Tyr Pro Leu Val Gly His Ala Leu
65           70           75           80
Leu Met Lys Pro Asp Gly Arg Glu Phe Phe Gln Gln Ile Ile Glu Tyr
85           90           95
Thr Glu Glu Tyr Arg His Met Pro Leu Leu Lys Leu Trp Val Gly Pro

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<210> 4653
<211> 1276
<212> DNA
<213> Homo sapiens
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3850

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 780
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 1080
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<210> 4654

<211> 255

<212> PRT

<213> Homo sapiens

<400> 4654

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| Met | Gly | Ile | Asp | Ser | Ile | Leu | Gly | His | Pro | Phe | Ala | Ala | Gln | Ala | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Tyr | Ser | Pro | Glu | Lys | Phe | Gln | Pro | Ser | Pro | Leu | Lys | Val | Asp | Lys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Thr | Asn | Thr | Glu | Asp | Leu | Phe | Leu | Glu | Glu | Ala | Ala | Ser | Leu | Val |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Lys | Glu | Arg | Pro | Ser | Arg | Arg | Ala | Arg | Gly | Ser | Pro | Phe | Val | Arg | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Thr | Ile | Val | Arg | Ser | Gln | Thr | Phe | Ser | Pro | Gly | Ala | Arg | Ser | Gln |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Tyr | Val | Cys | Arg | Leu | Tyr | Arg | Ser | Asp | Ser | Asp | Ser | Ser | Thr | Leu | Pro |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Arg | Lys | Ser | Pro | Phe | Val | Arg | Asn | Thr | Leu | Glu | Arg | Arg | Thr | Leu | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Tyr | Lys | Gln | Ser | Cys | Arg | Ser | Ser | Leu | Ala | Glu | Leu | Met | Ala | Arg | Thr |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ser | Leu | Asp | Leu | Glu | Leu | Asp | Leu | Gln | Ala | Ser | Arg | Thr | Arg | Gln | Arg |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Gln | Leu | Asn | Glu | Glu | Leu | Cys | Ala | Leu | Arg | Glu | Leu | Arg | Gln | Arg | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Glu | Asp | Ala | Gln | Leu | Arg | Gly | Gln | Thr | Asp | Leu | Pro | Pro | Trp | Val | Leu |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Arg | Asp | Glu | Arg | Leu | Arg | Gly | Leu | Leu | Arg | Glu | Ala | Glu | Arg | Gln | Thr |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Arg | Gln | Thr | Lys | Leu | Asp | Tyr | Arg | His | Glu | Gln | Ala | Ala | Glu | Lys | Met |

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 Gly Arg Gln His His Gly Arg Pro
 145 150

<210> 4657
 <211> 723
 <212> DNA
 <213> Homo sapiens

<400> 4657
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 120
 gagtcaggcc tagggaaatc caccctcatc aacagcctct tcctcaccaa cctctatgag
 180
 gatcgccagg tgccagaggc cagtgtctgc ttgacacaga ccctggccat tgagcgccgg
 240
 ggcgtagaga ttgaggaagg ggggtgtgaa gtgaagctga cccttggtga cacacctggc
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 420
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 480
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 723

<210> 4658
 <211> 233
 <212> PRT
 <213> Homo sapiens

<400> 4658
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 35 40 45
 Asn Leu Tyr Glu Asp Arg Gln Val Pro Glu Ala Ser Ala Arg Leu Thr
 50 55 60
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<210> 4659
<211> 864
<212> DNA
<213> Homo sapiens
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3854

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864

<210> 4660
<211> 192
<212> PRT
<213> Homo sapiens

<400> 4660
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Ser Val Arg Ala Phe His His Gln Phe Leu Glu Ser Thr His Gly Ser
35 40 45
Pro Ser Val Asp Ile Ser Leu Asp Leu Ala Lys Ser Thr Met Arg Thr
50 55 60
Ala Lys Ser Cys His Ile Val Ile Thr Asn Arg Ser Arg Asp Ala Ile
65 70 75 80
Ser Gly Pro Val Glu Ser Pro His Cys Asp Ala Cys Ser Thr Gln Thr
85 90 95
Ala Phe Ile His Ile Ser Cys Asn Leu Thr Pro Lys Ala Arg Glu Thr
100 105 110
Lys Cys Ala Thr Glu Thr Asp Ser Ala Val Ala Glu Thr Val Thr His
115 120 125
Ala Cys Leu Pro Val Gly Val Leu Gly Gly Arg Thr Gly Thr Asp Ser
130 135 140
Arg Leu Gly His Asn Asp His Arg Arg Leu Ser Leu His Phe Gln Cys
145 150 155 160
Arg Ala Phe His Val Val Phe Ile Cys Gly Glu Ile Leu Ser Gln Ala
165 170 175
Thr Arg His Phe Leu Leu Gly Thr Leu Phe Thr Asn Phe His Cys Phe
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<210> 4661
<211> 153
<212> DNA
<213> Homo sapiens

<400> 4661
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153

<210> 4662
<211> 51
<212> PRT
<213> Homo sapiens

<400> 4662
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| | | | |
|---|----|----|----|
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| Tyr Met Ile Ser Lys His Ser His Glu Gln Ser Asp Arg Gly Glu Gly | | | |
| | 20 | 25 | 30 |
| Val Glu Val Val Gln Asn Glu Pro Phe Glu Asp Pro His His Gly His | | | |
| | 35 | 40 | 45 |
| Gly Gln Phe | | | |
| 50 | | | |

<210> 4663

<211> 1550

<212> DNA

<213> Homo sapiens

<400> 4663

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1200

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 1380
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 1440
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<210> 4664

<211> 347

<212> PRT

<213> Homo sapiens

<400> 4664

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Arg | His | Thr | Asp | Ser | Leu | Phe | Pro | Ile | Leu | Leu | Gln | Thr | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Asp | Glu | Ser | Asp | Glu | Val | Ile | Leu | Lys | Asp | Leu | Glu | Val | Leu | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Ile | Ala | Ser | Ser | Pro | Ala | Gly | Gln | Thr | Asp | Asp | Pro | Gly | Pro | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Gly | Pro | Asp | Leu | Gln | Ala | Ser | His | Ser | Glu | Leu | Gln | Val | Pro | Thr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Gly | Arg | Ala | Gly | Leu | Leu | Asn | Thr | Ser | Gly | Thr | Lys | Gly | Leu | Glu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Cys | Ser | Pro | Ser | Thr | Pro | Thr | Met | Asn | Ser | Tyr | Phe | Tyr | Lys | Phe | Met |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ile | Asn | Leu | Leu | Lys | Arg | Phe | Ser | Ser | Glu | Arg | Lys | Leu | Leu | Glu | Val |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Gly | Pro | Phe | Ile | Ile | Arg | Gln | Leu | Cys | Leu | Leu | Leu | Asn | Ala | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Asn | Ile | Phe | His | Ser | Met | Ala | Asp | Ile | Leu | Leu | Arg | Glu | Glu | Asp | Leu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Lys | Phe | Ala | Ser | Thr | Met | Val | His | Ala | Leu | Asn | Thr | Ile | Leu | Leu | Thr |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ser | Thr | Glu | Leu | Phe | Gln | Leu | Arg | Asn | Gln | Leu | Lys | Asp | Leu | Lys | Thr |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Leu | Glu | Ser | Gln | Asn | Leu | Phe | Cys | Cys | Leu | Tyr | Arg | Ser | Trp | Cys | His |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Asn | Pro | Val | Thr | Thr | Val | Ser | Leu | Cys | Phe | Leu | Thr | Gln | Asn | Tyr | Arg |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| His | Ala | Tyr | Asp | Leu | Ile | Gln | Lys | Phe | Gly | Asp | Leu | Glu | Val | Thr | Val |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Asp | Phe | Leu | Ala | Glu | Val | Asp | Lys | Leu | Val | Gln | Leu | Ile | Glu | Cys | Pro |
| 225 | | | | 230 | | | | | 235 | | | | | | 240 |
| Ile | Phe | Thr | Tyr | Leu | Arg | Leu | Gln | Leu | Leu | Asp | Val | Lys | Asn | Asn | Pro |
| | | | 245 | | | | | 250 | | | | | | 255 | |
| Tyr | Leu | Ile | Lys | Ala | Leu | Tyr | Gly | Leu | Leu | Met | Leu | Leu | Pro | Gln | Ser |
| | | 260 | | | | | 265 | | | | | | 270 | | |
| Ser | Ala | Phe | Gln | Leu | Leu | Ser | His | Arg | Leu | Gln | Cys | Val | Pro | Asn | Pro |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 275 | | 280 | | 285 | | | | | | | | | | |
| Glu | Leu | Leu | Gln | Thr | Glu | Asp | Ser | Leu | Lys | Ala | Ala | Pro | Lys | Ser | Gln |
| | 290 | | | | | 295 | | | | 300 | | | | | |
| Lys | Ala | Asp | Ser | Pro | Ser | Ile | Asp | Tyr | Ala | Glu | Leu | Leu | Gln | His | Phe |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Lys | Val | Gln | Asn | Lys | His | Leu | Glu | Val | Arg | His | Gln | Arg | Ser | Gly |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Arg | Gly | Asp | His | Leu | Asp | Arg | Arg | Val | Val | Leu | | | | | |
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<210> 4665

<211> 1043

<212> DNA

<213> Homo sapiens

<400> 4665

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180
tgtccacctt tacgaagccg agcatacaca ccacctgaag atctccagag tcgtttggaa
240
tcttacgtta aagaagtttt tggttcatct ctccctagta attggcaaga catctccctg
300
gaagatagtc gtctaaagtt caatcttctg gtcatttag ctgatgactt ggggtcatgta
360
gtccctaact ccagactcca ccagatgtgc aggggttagag atgttcttga tttctataat
420
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480
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780
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840
ttcatcctgt taggattcat atctaagata gagttatgca ttgcacatac acaaataaac
900
ttttattaga tagataccta taaaagaaac ataaaagtat gttgtgtatt actgacagtt
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1020
aaaaaaaaaa aaaaaaaaaa aaa
1043

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<210> 4666

<211> 167
 <212> PRT
 <213> Homo sapiens

<400> 4666
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 Arg Glu Phe Trp Ser Arg Phe Arg Lys Glu Lys Glu Pro Val Val Val
 35 40 45
 Glu Thr Val Glu Glu Lys Lys Glu Pro Ile Leu Val Cys Pro Pro Leu
 50 55 60
 Arg Ser Arg Ala Tyr Thr Pro Pro Glu Asp Leu Gln Ser Arg Leu Glu
 65 70 75 80
 Ser Tyr Val Lys Glu Val Phe Gly Ser Ser Leu Pro Ser Asn Trp Gln
 85 90 95
 Asp Ile Ser Leu Glu Asp Ser Arg Leu Lys Phe Asn Leu Leu Ala His
 100 105 110
 Leu Ala Asp Asp Leu Gly His Val Val Pro Asn Ser Arg Leu His Gln
 115 120 125
 Met Cys Arg Val Arg Asp Val Leu Asp Phe Tyr Asn Val Pro Ile Gln
 130 135 140
 Asp Arg Ser Lys Phe Asp Glu Leu Ser Ala Ser Asn Leu Pro Pro Asn
 145 150 155 160
 Leu Lys Ile Thr Trp Ser Tyr
 165

<210> 4667
 <211> 1031
 <212> DNA
 <213> Homo sapiens

<400> 4667
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 360
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 600

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 660
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 720
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 780
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 900
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 1020
 aaaaaaaaaa a
 1031

<210> 4668
 <211> 207
 <212> PRT
 <213> Homo sapiens

<400> 4668
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 Ala Gln Lys Ala Arg Trp Leu Ile Pro Leu Leu Glu Gly Lys Ala Arg
 35 40 45
 Ser Cys Phe Ala Met Thr Glu Pro Gln Val Ala Ser Ser Asp Ala Thr
 50 55 60
 Asn Ile Glu Ala Ser Ile Arg Glu Glu Asp Ser Phe Tyr Val Ile Asn
 65 70 75 80
 Gly His Lys Trp Trp Ile Thr Gly Ile Leu Asp Pro Arg Cys Gln Leu
 85 90 95
 Cys Val Phe Met Gly Lys Thr Asp Pro His Ala Pro Arg His Arg Gln
 100 105 110
 Gln Ser Val Leu Leu Val Pro Met Asp Thr Pro Gly Ile Lys Ile Ile
 115 120 125
 Arg Pro Leu Thr Val Tyr Gly Leu Glu Asp Ala Pro Gly Gly His Gly
 130 135 140
 Glu Val Arg Phe Glu His Val Arg Val Pro Lys Glu Asn Met Val Leu
 145 150 155 160
 Gly Pro Gly Arg Gly Phe Glu Ile Ala Gln Gly Arg Leu Gly Pro Gly
 165 170 175
 Arg Ile His His Cys Met Arg Leu Ile Gly Phe Ser Glu Arg Ala Leu
 180 185 190
 Ala Leu Met Lys Ala Arg Val Ser Ala Phe Pro Arg Thr Gln His
 195 200 205

<210> 4669
 <211> 683
 <212> DNA
 <213> Homo sapiens

<400> 4669
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120
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180
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240
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300
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360
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420
gcaattgtgg ttatacagaa ttattatagg ttgtatgtta gagtaaaaac agaaagaaaa
480
aacttttttag cagttcagaa atctgtccga actattcagg ctgcttttag aggcataaaa
540
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<210> 4670

<211> 135

<212> PRT

<213> Homo sapiens

<400> 4670

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ser | Phe | Ser | Gly | Leu | Arg | Gly | Ile | Ile | Gln | Glu | Lys | Tyr | Arg | Ala |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Asn | Lys | Lys | Lys | Gln | Lys | Val | Phe | Gln | His | Asn | Glu | Leu | Lys | Lys | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Thr | Cys | Val | Gln | Ala | Gly | Phe | Gln | Asp | Met | Asn | Ile | Lys | Lys | Gln | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Glu | Gln | His | Gln | Ala | Ala | Ile | Ile | Ile | Gln | Lys | His | Cys | Lys | Ala |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Phe | Lys | Ile | Arg | Lys | His | Tyr | Leu | His | Ile | Arg | Ala | Thr | Val | Val | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ile | Gln | Arg | Arg | Tyr | Arg | Lys | Leu | Thr | Ala | Val | Arg | Thr | Gln | Ala | Val |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ile | Cys | Ile | Gln | Ser | Tyr | Tyr | Arg | Gly | Phe | Lys | Val | Arg | Lys | Asp | Ile |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gln | Asn | Met | His | Arg | Ala | Ala | Thr | Leu | Ile | Gln | Ser | Phe | Tyr | Arg | Met |
| | | | 115 | | | | 120 | | | | | | 125 | | |
| His | Arg | Ala | Lys | Val | Asp | Tyr | | | | | | | | | |
| | | | 130 | | | 135 | | | | | | | | | |

<210> 4671

<211> 657

<212> DNA

<213> Homo sapiens

<400> 4671

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 120
 ggggctcggc aggggctacc cggtccgct tccgccagt aatggagact gcagccacgt
 180
 taggccaggc tgetgcagtg gtttcagcat ctatccgcag ggatccacgg ggaagctggt
 240
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 300
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 360
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<210> 4672

<211> 152

<212> PRT

<213> Homo sapiens

<400> 4672

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| Ala | Arg | Leu | Leu | Gln | Trp | Phe | Gln | His | Leu | Ser | Ala | Gly | Ile | His | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | Ala | Gly | Val | Arg | Arg | Ile | Lys | Met | Ala | Thr | Ala | Asp | Glu | Ile | Val |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Lys | Leu | Met | Leu | Asp | His | Met | Thr | Asn | Thr | Thr | Asn | Ala | Ser | His | Val |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Pro | Val | Gln | Pro | Gly | Ser | Ser | Val | Val | Met | Met | Val | Asn | Asn | Leu | Gly |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Gly | Leu | Ser | Phe | Leu | Glu | Leu | Gly | Ile | Ile | Ala | Asp | Ala | Thr | Val | Arg |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ser | Leu | Glu | Gly | Arg | Gly | Val | Lys | Ile | Ala | Arg | Ala | Leu | Val | Gly | Thr |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Phe | Met | Ser | Ala | Leu | Glu | Met | Pro | Gly | Ile | Ser | Leu | Thr | Leu | Leu | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Val | Asp | Glu | Pro | Leu | Leu | Lys | Leu | Ile | Asp | Ala | Glu | Thr | Thr | Ala | Ala |
| | | 115 | | | | 120 | | | | | 125 | | | | |
| Ala | Trp | Pro | Arg | Ser | Gly | Trp | Arg | Trp | Cys | Trp | Asn | Gly | Cys | Ala | Ala |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Leu | Ser | Trp | Ala | Trp | Arg | Asn | Thr | | | | | | | | |
| 145 | | | | | | 150 | | | | | | | | | |

<210> 4673

<211> 1335

<212> DNA

<213> Homo sapiens

<400> 4673

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aatctaagga tgaatgttca ccgtggcagt gacagtgaca gggtattgcg gcaggaggcc
180
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240
tcactctggc ctcataatct tacttatact ctaggtccca ggaatgaaga cctctcactt
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gactatgcct ctacgccagc aaatcttcag ttccctcaca taatgccct tgctgaagac
360
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420
gaaagatttg gaaacagtag tgtgggcttt ggcagtaatt cccattccca agcaccagag
480
aaagtgcgc ttctttaga tggcacacgt ttgtgtgtga atccacagat tttcactgct
540
catccggata ccatgctggg aaggatgttt ggaccaggaa gagagtacaa cttcactcgg
600
cccaatgaga agggagagta tgagattgct gaaggcatca gtgcaactgt atttcgcaca
660
gtgctggatt attacaaaac cggatcatc aattgtcctg atggcatctc tatccagat
720
cttagagata cttgtgatta tctctgcatt aattttgact tcaacactat cogatgtcaa
780
gatctgagtg ctttactcca tgaactgtct aatgacggtg ctcataagca gtttgatcac
840
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900
tgccacattg ttgtgctgac ggatgaggat tctgtggact gggatgaaga ccacctcca
960
ccaatggggg aggaatatc ccaaattctt tatagctcca agctctacag attcttcaa
1020
tatattgaga atagggatgt tgcaaaaaca gtgttaaagg aacggggcct aaaaaacatt
1080
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1140
cgttctgaag tcatctataa ttatgtacaa cgtcccttca tccagatgtc atgggaaaaa
1200
gaagaaggga agagtcgcca tgtggatttc cagtgtgttc gaagcaaata cctcacgaat
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1335

<210> 4674

<211> 402

<212> PRT

<213> Homo sapiens

<400> 4674

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 20           25           30
Ala Asn Ser Leu Ala Ser Ser Gly Pro His Asn Leu Thr Tyr Pro Leu
 35           40           45
Gly Pro Arg Asn Glu Asp Leu Ser Leu Asp Tyr Ala Ser Gln Pro Ala
 50           55           60
Asn Leu Gln Phe Pro His Ile Met Pro Leu Ala Glu Asp Ile Lys Gly
 65           70           75           80
Ser Cys Phe Gln Ser Gly Asn Lys Arg Asn His Glu Pro Phe Ile Ala
 85           90           95
Pro Glu Arg Phe Gly Asn Ser Ser Val Gly Phe Gly Ser Asn Ser His
 100          105          110
Ser Gln Ala Pro Glu Lys Val Thr Leu Leu Val Asp Gly Thr Arg Phe
 115          120          125
Val Val Asn Pro Gln Ile Phe Thr Ala His Pro Asp Thr Met Leu Gly
 130          135          140
Arg Met Phe Gly Pro Gly Arg Glu Tyr Asn Phe Thr Arg Pro Asn Glu
 145          150          155          160
Lys Gly Glu Tyr Glu Ile Ala Glu Gly Ile Ser Ala Thr Val Phe Arg
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Thr Val Leu Asp Tyr Tyr Lys Thr Gly Ile Ile Asn Cys Pro Asp Gly
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Ile Ser Ile Pro Asp Leu Arg Asp Thr Cys Asp Tyr Leu Cys Ile Asn
 195          200          205
Phe Asp Phe Asn Thr Ile Arg Cys Gln Asp Leu Ser Ala Leu Leu His
 210          215          220
Glu Leu Ser Asn Asp Gly Ala His Lys Gln Phe Asp His Tyr Leu Glu
 225          230          235          240
Glu Leu Ile Leu Pro Ile Met Val Gly Cys Ala Lys Lys Gly Glu Arg
 245          250          255
Glu Cys His Ile Val Val Leu Thr Asp Glu Asp Ser Val Asp Trp Asp
 260          265          270
Glu Asp His Pro Pro Pro Met Gly Glu Glu Tyr Ser Gln Ile Leu Tyr
 275          280          285
Ser Ser Lys Leu Tyr Arg Phe Phe Lys Tyr Ile Glu Asn Arg Asp Val
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Ala Lys Thr Val Leu Lys Glu Arg Gly Leu Lys Asn Ile Arg Ile Gly
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Ile Glu Gly Tyr Pro Thr Cys Lys Glu Lys Ile Lys Arg Arg Pro Gly
 325          330          335
Gly Arg Ser Glu Val Ile Tyr Asn Tyr Val Gln Arg Pro Phe Ile Gln
 340          345          350
Met Ser Trp Glu Lys Glu Glu Gly Lys Ser Arg His Val Asp Phe Gln
 355          360          365
Cys Val Arg Ser Lys Ser Leu Thr Asn Leu Val Ala Ala Gly Asp Asp
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395

400

<210> 4675

<211> 2868

<212> DNA

<213> Homo sapiens

<400> 4675

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<211> 641

<212> PRT

<213> Homo sapiens

<400> 4676

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Glu Phe Asn Pro Ser Ser Ser Gly Arg Ser Ala Arg Thr Val Ser Ser
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Asn Ser Phe Cys Ser Asp Asp Thr Gly Cys Pro Ser Ser Gln Ser Val
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Ser Pro Val Lys Thr Pro Ser Asp Ala Gly Asn Ser Pro Ile Gly Phe
      65           70           75           80
Cys Pro Gly Ser Asp Glu Gly Phe Thr Arg Lys Lys Cys Thr Ile Gly
      85           90           95
Met Val Gly Glu Gly Ser Ile Gln Ser Ser Arg Tyr Lys Lys Glu Ser
      100          105          110
Lys Ser Gly Leu Val Lys Pro Gly Ser Glu Ala Asp Phe Ser Ser Ser
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Ser Ser Thr Gly Ser Ile Ser Ala Pro Glu Val His Met Ser Thr Ala
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Gly Ser Lys Arg Ser Ser Ser Ser Arg Asn Arg Gly Pro His Gly Arg
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Ser Asn Gly Ala Ser Ser His Lys Pro Gly Ser Ser Ser Ser Pro
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His Leu Lys Thr Lys Leu Lys Glu Ser Glu Arg Arg Leu His Glu Arg
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Met Glu Met Ala His Ser Gly Ser Leu Arg Asp Glu Leu Cys Leu Asp
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Ser Pro Asp Glu Ser Glu Pro Asp Ser Met Glu Ser Phe Pro Glu Ser
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<210> 4677

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<212> DNA

<213> Homo sapiens

<400> 4677

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<210> 4678

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| Leu | Phe | Phe | Ser | His | Ser | Val | Arg | Cys | Ala | Arg | Lys | Gln | Leu | Leu | Gly |
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| Arg | Thr | Val | Phe | Ile | Trp | Phe | Val | Gly | Gln | Leu | Leu | Gly | Gly | Glu | Leu |
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| Arg | Gly | Ser | Leu | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Leu | Thr |
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| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Lys | Glu | Met | Leu | Gln | Lys | Phe | Lys | Phe | Ser | His | Val | Tyr | Phe | Lys | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Leu | Phe | His | Gln | Thr | Thr | Arg | Gln | Lys | Asn | Leu | Ser | Phe | Leu | Pro |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Pro | Phe | Ser | Phe | Phe | Pro | Ser | Cys | Thr | His | Leu | Glu | Asn | Phe | Thr | Phe |
| | | | 50 | | | | 55 | | | | 60 | | | | |
| Leu | Glu | Ser | Pro | Gln | Asn | Asn | Thr | Lys | Val | Ile | Val | Gly | Ala | Thr | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Phe | Met | Leu | Tyr | Cys | Gly | Ala | Arg | Gly | Lys | Thr | Cys | Leu | Tyr | Ala | Gly |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asn | Thr | His | Asn | His | Ser | Phe | Arg | Phe | Val | Cys | Leu | Met | Val | Ile | Cys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| His | Lys | Arg | Asp | Leu | Gln | Lys | Gln | Gly | Ala | Leu | Val | Asn | Val | Gln | Tyr |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Leu | Asp | Phe | Cys | Val | Leu | Arg | Thr | Gln | Lys | Gly | Ala | Thr | Leu | Leu | Phe |
| | | | 130 | | | | 135 | | | | | 140 | | | |
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<210> 4684
 <211> 385
 <212> PRT
 <213> Homo sapiens

<400> 4684
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 35 40 45
 Gln Thr His Gly Thr Ala Arg Ile Gly Thr His Asn Gly Thr Phe His
 50 55 60
 Cys Asp Glu Ala Leu Ala Cys Ala Leu Leu Arg Leu Leu Pro Glu Tyr
 65 70 75 80
 Arg Asp Ala Glu Ile Val Arg Thr Arg Asp Pro Glu Lys Leu Ala Ser
 85 90 95
 Cys Asp Ile Val Val Asp Val Gly Gly Glu Tyr Asp Pro Arg Arg His
 100 105 110
 Arg Tyr Asp His His Gln Arg Ser Phe Thr Glu Thr Met Ser Ser Leu
 115 120 125
 Ser Pro Gly Lys Pro Trp Gln Thr Lys Leu Ser Ser Ala Gly Leu Ile
 130 135 140
 Tyr Leu His Phe Gly His Lys Leu Leu Ala Gln Leu Leu Gly Thr Ser
 145 150 155 160
 Glu Glu Asp Ser Met Val Gly Thr Leu Tyr Asp Lys Met Tyr Glu Asn
 165 170 175
 Phe Val Glu Glu Val Asp Ala Val Asp Asn Gly Ile Ser Gln Trp Ala
 180 185 190
 Glu Gly Glu Pro Arg Tyr Ala Leu Thr Thr Thr Leu Ser Ala Arg Val
 195 200 205
 Ala Arg Leu Asn Pro Thr Trp Asn His Pro Asp Gln Asp Thr Glu Ala
 210 215 220
 Gly Phe Lys Arg Ala Met Asp Leu Val Gln Glu Phe Leu Gln Arg
 225 230 235 240
 Leu Asp Phe Tyr Gln His Ser Trp Leu Pro Ala Arg Ala Leu Val Glu
 245 250 255
 Glu Ala Leu Ala Gln Arg Phe Gln Val Asp Pro Ser Gly Glu Ile Val
 260 265 270
 Glu Leu Ala Lys Gly Ala Cys Pro Trp Lys Glu His Leu Tyr His Leu
 275 280 285
 Glu Ser Gly Leu Ser Pro Pro Val Ala Ile Phe Phe Val Ile Tyr Thr
 290 295 300
 Asp Gln Ala Gly Gln Trp Arg Ile Gln Cys Val Pro Lys Glu Pro His

| | | | | | | | | | | | | | | | |
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| Gly | Leu | Ser | Asp | His | Pro | His | Val | His | Thr | Ala | Ser | Arg | Ala | Ala | Ala |
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| Asp | Ala | Arg | Gly | Arg | Ala | Gly | His | Arg | Ser | Ala | Ala | Ala | Ser | Asn | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Gly | Leu | Ser | Leu | Gln | Glu | Ala | Gln | Gln | Ile | Leu | Asn | Val | Ser | Lys |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Leu | Ser | Pro | Glu | Glu | Val | Gln | Lys | Asn | Tyr | Glu | His | Leu | Phe | Lys | Val |

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      50              55              60
Asn Asp Lys Ser Val Gly Gly Ser Phe Tyr Leu Gln Ser Lys Val Val
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Arg Ala Lys Glu Arg Leu Asp Glu Glu Leu Lys Ile Gln Ala Gln Glu
      85              90              95
Asp Arg Glu Lys Gly Gln Met Pro His Thr
      100              105

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<210> 4687
 <211> 309
 <212> DNA
 <213> Homo sapiens

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<400> 4687
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tcgtggcggt ctacagcttg tcccatggcg aggtctccta tgaccactc tatgctggct
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309

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<210> 4688
 <211> 90
 <212> PRT
 <213> Homo sapiens

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<400> 4688
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1              5              10              15
Ala Leu Pro Val Ser Tyr Ala Leu Asn His Val Ser Ala Leu Ser His
      20              25              30
Pro Leu Trp Val Ala Leu Met Ser Ala Leu Ile Leu Gly Leu Leu Phe
      35              40              45
Val Ala Val Tyr Ser Leu Ser His Gly Glu Val Ser Tyr Asp Pro Leu
      50              55              60
Tyr Ala Gly Phe Ala Val Phe Ala Phe Thr Ser Gly Gly Asp Leu Ile
65              70              75              80
Ile Ala Leu Gln Glu Asp Ser Tyr Gly Gly
      85              90

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<210> 4689
 <211> 898
 <212> DNA
 <213> Homo sapiens

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<400> 4689
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 240
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 300
 caggatgcgg tgcgtgcttc tgcccagcgc atgggtgaca cccacactgg cctggcgctg
 360
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 420
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 480
 ctaaggacc tggcgctcac cgtgttcatt gtcagcaccg gccgaggcaa cttcctggag
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<210> 4690

<211> 299

<212> PRT

<213> Homo sapiens

<400> 4690

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 20 25 30
 Ser Ala Pro Glu Asp Leu Met Phe Leu Leu Asp Ser Ser Ala Ser Val
 35 40 45
 Ser His Tyr Glu Phe Ser Arg Val Arg Glu Phe Val Gly Gln Leu Val
 50 55 60
 Ala Pro Leu Pro Leu Ala Pro Xaa Ala Leu Arg Ala Ser Leu Val His
 65 70 75 80
 Val Gly Ser Arg Pro Tyr Thr Glu Phe Pro Phe Gly Gln His Ser Ser
 85 90 95
 Gly Glu Ala Ala Gln Asp Ala Val Arg Ala Ser Ala Gln Arg Met Gly
 100 105 110
 Asp Thr His Thr Gly Leu Ala Leu Val Tyr Ala Lys Glu Gln Leu Phe
 115 120 125
 Ala Glu Ala Ser Gly Ala Arg Pro Gly Val Pro Lys Val Leu Val Trp
 130 135 140
 Val Thr Asp Gly Gly Ser Ser Asp Pro Val Gly Pro Pro Met Gln Glu

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145          150          155          160
Leu Lys Asp Leu Gly Val Thr Val Phe Ile Val Ser Thr Gly Arg Gly
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Asn Phe Leu Glu Leu Ser Ala Ala Ala Ser Ala Pro Ala Glu Lys His
          180          185          190
Leu His Phe Val Asp Val Asp Asp Leu His Ile Ile Val Gln Glu Leu
          195          200          205
Arg Gly Ser Ile Leu Asp Ala Met Arg Pro Gln Gln Leu His Ala Thr
          210          215          220
Glu Ile Thr Ser Ser Gly Phe Arg Leu Ala Trp Pro Pro Leu Leu Thr
          225          230          235          240
Ala Asp Ser Gly Tyr Val Leu Glu Leu Val Pro Ser Ala Gln Pro
          245          250          255
Gly Ala Ala Arg Arg Gln Gln Leu Pro Gly Asn Ala Thr Asp Trp Ile
          260          265          270
Trp Ala Gly Leu Asp Pro Asp Thr Asp Tyr Asp Val Ala Leu Val Pro
          275          280          285
Glu Ser Asn Val Arg Leu Leu Arg Pro Gln Ile
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<210> 4691

<211> 2375

<212> DNA

<213> Homo sapiens

<400> 4691

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840

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<210> 4692

<211> 383

<212> PRT

<213> Homo sapiens

<400> 4692

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Phe Leu Phe His Ala Ile Asn Lys Pro Asn Ala Pro Ile Trp Leu Ile
           35           40           45
Leu Asn Glu Ala Gly Leu Tyr Trp Arg Ala Val Gly Asn Ser Thr Phe
           50           55           60
Ala Ile Ala Cys Leu Gln Arg Ala Leu Asn Leu Ala Pro Leu Gln Tyr
65           70           75           80
Gln Asp Val Pro Leu Val Asn Leu Ala Asn Leu Leu Ile His Tyr Gly
           85           90           95
Leu His Leu Asp Ala Thr Lys Leu Leu Leu Gln Ala Leu Ala Ile Asn
           100          105          110
Ser Ser Glu Pro Leu Thr Phe Leu Ser Leu Gly Asn Ala Tyr Leu Ala
           115          120          125
Leu Lys Asn Ile Ser Gly Ala Leu Glu Ala Phe Arg Gln Ala Leu Lys
           130          135          140
Leu Thr Thr Lys Cys Pro Glu Cys Glu Asn Ser Leu Lys Leu Ile Arg
145           150          155          160
Cys Met Gln Phe Tyr Pro Phe Leu Tyr Asn Ile Thr Ser Ser Val Cys
           165          170          175
Ser Gly Asn Cys His Glu Lys Thr Leu Asp Asn Ser His Asp Lys Gln
           180          185          190
Lys Tyr Phe Asp Asn Ser Gln Ser Leu Asp Ala Ala Glu Glu Glu Pro
           195          200          205
Ser Glu Arg Gly Thr Glu Glu Asp Pro Val Phe Ser Val Glu Asn Ser
           210          215          220
Gly Arg Asp Ser Asp Ala Leu Arg Leu Glu Ser Thr Val Val Glu Glu
225           230          235          240
Ser Asn Gly Ser Asp Glu Met Glu Asn Ser Asp Glu Thr Lys Met Ser
           245          250          255
Glu Glu Ile Leu Ala Leu Val Asp Glu Phe Gln Gln Ala Trp Pro Leu
           260          265          270
Glu Gly Phe Gly Gly Ala Leu Glu Met Lys Gly Arg Arg Leu Asp Leu
           275          280          285
Gln Gly Ile Arg Val Leu Lys Lys Gly Pro Gln Asp Gly Val Ala Arg
290           295          300
Ser Ser Cys Tyr Gly Asp Cys Arg Ser Glu Asp Asp Glu Ala Thr Glu
305           310          315          320
Trp Ile Thr Phe Gln Val Lys Arg Val Lys Lys Pro Lys Gly Asp His
           325          330          335
Lys Lys Thr Pro Gly Lys Lys Val Glu Thr Gly Gln Ile Glu Asn Gly
           340          345          350
His Arg Tyr Gln Ala Asn Leu Glu Ile Thr Gly Pro Lys Val Ala Ser
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Pro Gly Pro Gln Gly Leu Leu Asp Trp Lys Thr Arg Lys Val Pro
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<210> 4693
 <211> 794
 <212> DNA
 <213> Homo sapiens

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<210> 4694
 <211> 103
 <212> PRT
 <213> Homo sapiens

<400> 4694
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 35 40 45
 Lys Gly Phe Leu Ala Gly Tyr Val Val Ala Lys Leu Arg Ala Ser Ala
 50 55 60
 Val Leu Gly Phe Ala Val Gly Thr Cys Thr Gly Ile Tyr Ala Ala Gln
 65 70 75 80
 Ala Tyr Ala Val Pro Asn Val Glu Lys Thr Leu Arg Asp Tyr Leu Gln
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 Leu Leu Arg Lys Gly Pro Asp

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<210> 4695

<211> 2209

<212> DNA

<213> Homo sapiens

<400> 4695

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<210> 4696

<211> 302

<212> PRT

<213> Homo sapiens

<400> 4696

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Pro | Phe | Phe | Pro | Phe | Gly | Leu | Pro | His | Ser | Gly | Ile | Ala | Glu | Gly |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Arg | Gly | Val | Lys | Ile | Ala | Arg | Ala | Leu | Val | Gly | Thr | Phe | Met | Ser | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Glu | Met | Pro | Gly | Ile | Ser | Leu | Thr | Leu | Leu | Leu | Val | Asp | Glu | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Leu | Lys | Leu | Ile | Asp | Ala | Glu | Thr | Thr | Ala | Ala | Ala | Trp | Pro | Asn |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Val | Ala | Ala | Val | Ser | Ile | Thr | Gly | Arg | Lys | Arg | Ser | Arg | Val | Ala | Pro |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ala | Glu | Pro | Gln | Glu | Ala | Pro | Asp | Ser | Thr | Ala | Ala | Xaa | Glu | Ala | Gln |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Pro | Arg | Ser | Xaa | Met | Ala | Leu | Val | Leu | Glu | Arg | Val | Cys | Ser | Thr | Leu |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Leu | Gly | Leu | Glu | Glu | His | Leu | Asn | Ala | Leu | Asp | Arg | Ala | Ala | Gly | Asp |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Gly | Asp | Cys | Gly | Thr | Thr | His | Ser | Arg | Ala | Ala | Arg | Ala | Ile | Gln | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Trp | Leu | Lys | Glu | Gly | Pro | Pro | Pro | Ala | Ser | Pro | Ala | Gln | Leu | Leu | Ser |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 145 | | | | 150 | | | | 155 | | | | 160 | | | | |
| Lys | Leu | Ser | Val | Leu | Leu | Leu | Glu | Lys | Met | Gly | Gly | Ser | Ser | Gly | Ala | |
| | | | | 165 | | | | 170 | | | | | | 175 | | |
| Leu | Tyr | Gly | Leu | Phe | Leu | Thr | Ala | Ala | Ala | Gln | Pro | Leu | Lys | Ala | Lys | |
| | | | | 180 | | | | 185 | | | | | | 190 | | |
| Thr | Ser | Leu | Pro | Ala | Trp | Ser | Ala | Ala | Met | Asp | Ala | Gly | Leu | Glu | Ala | |
| | | | | 195 | | | | 200 | | | | | | 205 | | |
| Met | Gln | Lys | Tyr | Gly | Lys | Ala | Ala | Pro | Gly | Asp | Arg | Thr | Met | Leu | Asp | |
| | | | | 210 | | | | 215 | | | | | | 220 | | |
| Ser | Leu | Trp | Ala | Ala | Glu | Gln | Glu | Leu | Gln | Ala | Trp | Lys | Ser | Pro | Gly | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Ala | Asp | Leu | Leu | Gln | Val | Leu | Thr | Lys | Ala | Val | Lys | Ser | Ala | Glu | Ala | |
| | | | | 245 | | | | | | 250 | | | | 255 | | |
| Ala | Ala | Glu | Ala | Thr | Lys | Asn | Met | Glu | Ala | Gly | Ala | Gly | Arg | Ala | Ser | |
| | | | | 260 | | | | | | 265 | | | | 270 | | |
| Tyr | Ile | Ser | Ser | Ala | Arg | Leu | Glu | Gln | Pro | Asp | Pro | Gly | Ala | Val | Ala | |
| | | | | 275 | | | | 280 | | | | | | 285 | | |
| Ala | Ala | Ala | Ile | Leu | Arg | Ala | Ile | Leu | Glu | Val | Leu | Gln | Ser | | | |
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<210> 4697

<211> 1047

<212> DNA

<213> Homo sapiens

<400> 4697

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240
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300
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360
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420
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480
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600
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720
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780
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840

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<210> 4698

<211> 182

<212> PRT

<213> Homo sapiens

<400> 4698

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Ser | Thr | Ser | Pro | His | Ser | Ala | Cys | Arg | Ala | Arg | Pro | Thr | Ile | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Asp | Gly | Thr | Val | Phe | Arg | Ile | His | Thr | Lys | Ala | Glu | Gly | Phe | Met |
| | 20 | | | | | | 25 | | | | | 30 | | | |
| Asp | Ala | Asp | Ile | Pro | Leu | Glu | Leu | Val | Phe | His | Leu | Pro | Val | Asn | Tyr |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Pro | Ser | Cys | Leu | Pro | Gly | Ile | Ser | Ile | Asn | Ser | Glu | Gln | Leu | Thr | Arg |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Ala | Gln | Cys | Val | Thr | Val | Lys | Glu | Lys | Leu | Leu | Glu | Gln | Ala | Glu | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Leu | Leu | Ser | Glu | Pro | Met | Val | His | Glu | Leu | Val | Leu | Trp | Ile | Gln | Gln |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Asn | Leu | Arg | His | Ile | Leu | Ser | Gln | Pro | Glu | Thr | Gly | Ser | Gly | Ser | Glu |
| | 100 | | | | | | 105 | | | | | 110 | | | |
| Lys | Cys | Thr | Phe | Ser | Thr | Ser | Thr | Thr | Met | Asp | Asp | Gly | Leu | Trp | Ile |
| | 115 | | | | | 120 | | | | 125 | | | | | |
| Thr | Leu | Leu | His | Leu | Asp | His | Met | Arg | Ala | Lys | Thr | Lys | Tyr | Val | Lys |
| | 130 | | | | | 135 | | | | 140 | | | | | |
| Ile | Val | Glu | Lys | Trp | Ala | Ser | Asp | Leu | Arg | Leu | Thr | Gly | Arg | Leu | Met |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Phe | Met | Gly | Lys | Ile | Ile | Leu | Ile | Leu | Leu | Gln | Gly | Asp | Arg | Asn | Asn |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Leu | Lys | Val | Pro | Lys | Ser | | | | | | | | | | |
| | | | 180 | | | | | | | | | | | | |

<210> 4699

<211> 1441

<212> DNA

<213> Homo sapiens

<400> 4699

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 taagtcathtt cacctcggag accgaaaaaa tgatcaaaaa gaaactatga gtaacaagct
 180
 ataacatagt tcaccacaat gggaccccc ccccttttt ctcaccctac agttagtaat
 240

attacaatta aaataactat attcttctat attttttctg ttaaaatcat ctcataaatt
 300
 tacaatgcta ttattagttt ccaagactaa tataaattca ctccattttt ctacaacgaa
 360
 aatgattaat ttagaagcac acgacgtcat gatgaaaaac acaagcattt tagtagcaag
 420
 gacttgatca gttaagaatt agttttcttg taaaacattc taaagccaag taaaatatcc
 480
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 540
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 600
 cacataggaa aaagaggtac acgagaaaat actgttgcac gcaataattt tcacacagat
 660
 taacatggat taacactttt tattacagaa accgtacggg gaaggaacac aacagaccag
 720
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 780
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 900
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 960
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 1020
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 1080
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 1200
 gcccatgcac gtccaagaca ccagtcttga ctccgacctc taaagagctc cttctcctca
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 1320
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<210> 4700

<211> 116

<212> PRT

<213> Homo sapiens

<400> 4700

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Thr | Ile | Phe | Gly | Asn | Val | Thr | Glu | Tyr | Gln | Arg | Leu | Gln | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Thr | Arg | Gly | Gln | Ser | Lys | Thr | Gly | Trp | Lys | Leu | Pro | Val | Thr | Leu |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Ile | Cys | Cys | Pro | Arg | His | Pro | Leu | Met | Arg | Leu | Lys | Leu | Gly | Pro | Ser |


```

      1             5             10             15
Asp Pro Pro Thr Ser Ala Ser Glu Asn Ala Gly Ile Thr Gly Leu Ser
      20             25             30
His Xaa Pro Pro Gly His Phe Phe Leu Glu Thr Arg Ser Tyr Ser Leu
      35             40             45
Ala Lys Asn Gly Val Gln Trp Cys Asn Val Gly Ser Leu Gln Pro Lys
      50             55             60
Pro Pro Gly Leu Lys
65

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<210> 4703

<211> 513

<212> DNA

<213> Homo sapiens

<400> 4703

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120
cgaagagtct tcgaagggtt gccgcttttc ggtggcgag ttctcgcgag aaggaaaatg
180
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240
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300
gagaaagagg acttgctgaa gtacttcggg gctcagctctg tgcgggtcct gtcagataag
360
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420
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<210> 4704

<211> 112

<212> PRT

<213> Homo sapiens

<400> 4704

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Ser Ser Ser Leu Ser Pro Pro Arg Ala Asp Arg Thr Leu Leu Val Arg
      20             25             30
His Leu Pro Ala Glu Leu Thr Ala Glu Glu Lys Glu Asp Leu Leu Lys
      35             40             45
Tyr Phe Gly Ala Gln Ser Val Arg Val Leu Ser Asp Lys Gly Arg Leu
      50             55             60
Lys His Thr Ala Phe Ala Thr Phe Pro Asn Glu Lys Ala Ala Ile Lys
65             70             75             80
Ala Leu Thr Arg Leu His Gln Leu Lys Leu Leu Gly His Thr Leu Val
      85             90             95
Val Glu Phe Ala Lys Glu Gln Asp Arg Val His Ser Pro Cys Pro Thr

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100

105

110

<210> 4705
 <211> 569
 <212> DNA
 <213> Homo sapiens

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 120
 gaaggatgga aaggaccag gagcgataac agtaaatac ataagatatt tgcggtgga
 180
 attcctcaca attgtggtga gacagagctc aggaataact tcaagaagtt cggagtggc
 240
 acggaggtag tcatgatcta tgacgccgag aagcagaggc cccgaggtaa gggcagatct
 300
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 360
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 540
 ggcttggtt ctgtttttca ctgtccgga
 569

<210> 4706
 <211> 154
 <212> PRT
 <213> Homo sapiens

<400> 4706
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 20 25 30
 Thr Glu Leu Arg Glu Tyr Phe Lys Lys Phe Gly Val Val Thr Glu Val
 35 40 45
 Val Met Ile Tyr Asp Ala Glu Lys Gln Arg Pro Arg Gly Lys Gly Arg
 50 55 60
 Ser Ser Leu Thr Ser Ala Phe Ser Leu Leu Leu Pro Gln Met Ala Asn
 65 70 75 80
 Tyr Leu Thr Arg Gln Ala His Thr Gly Gly Gly Cys Ser Lys Gln Pro
 85 90 95
 Gln Glu Gly Thr Ile Trp Arg Gln Met Thr Lys Thr Trp Ala Pro His
 100 105 110
 Val His Pro Ile Gln Pro Val Cys Ala Ser Arg Gly Gln Thr Ser His
 115 120 125
 Ile Val Phe Trp Leu Val Leu Lys Phe Leu Arg Leu Val Met Ser
 130 135 140
 Leu Gly Leu Ala Ser Val Phe His Cys Pro

145

150

<210> 4707

<211> 748

<212> DNA

<213> Homo sapiens

<400> 4707

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gtctttccgg agaccttg aatttaaatt attagcaccg cgcccttccc cgaagagtct
180

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240

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300

ttgatgccgc gattttgact gagacttctt cccacgattt ctgtttttgc ttctccaagg
360

aaaatggcag ctcccgagca gccgcttgcg atatcaaggg gatgcacgag ctctctctcg
420

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480

gctgaggaga aagaggactt gctgaagtac ttccgggctc agtctgtgcg ggtcctgtca
540

gataaggggc gactgaaaca tacagctttt gccacattcc ctaatgaaaa agcagctata
600

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748

<210> 4708

<211> 128

<212> PRT

<213> Homo sapiens

<400> 4708

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20 25 30

His Leu Pro Ala Glu Leu Thr Ala Glu Glu Lys Glu Asp Leu Leu Lys
35 40 45

Tyr Phe Gly Ala Gln Ser Val Arg Val Leu Ser Asp Lys Gly Arg Leu
50 55 60

Lys His Thr Ala Phe Ala Thr Phe Pro Asn Glu Lys Ala Ala Ile Lys
65 70 75 80

Ala Leu Thr Arg Leu His Gln Leu Lys Leu Leu Gly His Thr Leu Val
85 90 95

Val Glu Phe Ala Lys Glu Gln Asp Arg Val His Ser Pro Cys Pro Thr

| | | | | | |
|-------------|---|--|-----|--|-----|
| | 100 | | 105 | | 110 |
| Ser Gly Ser | Glu Lys Lys Lys Met Ser Asp Asp Pro Val Glu Asp Asp | | | | |
| | 115 | | 120 | | 125 |

<210> 4709

<211> 1351

<212> DNA

<213> Homo sapiens

<400> 4709

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 720
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 780
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<210> 4710

<211> 304

<212> PRT

<213> Homo sapiens

<400> 4710

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Asn | Ser | Gly | Ala | Asp | Glu | Ile | Gly | Lys | Leu | Phe | Val | Gly | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Asp | Trp | Ser | Thr | Thr | Gln | Glu | Thr | Leu | Arg | Ser | Tyr | Phe | Ser | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Tyr | Gly | Glu | Val | Val | Asp | Cys | Val | Ile | Met | Lys | Asp | Lys | Thr | Thr | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Ser | Arg | Gly | Phe | Gly | Phe | Val | Lys | Phe | Lys | Asp | Pro | Asn | Cys | Val |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Gly | Thr | Val | Leu | Ala | Ser | Arg | Pro | His | Thr | Leu | Asp | Gly | Arg | Asn | Ile |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Asp | Pro | Lys | Pro | Cys | Thr | Pro | Arg | Gly | Met | Gln | Pro | Glu | Arg | Thr | Arg |
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| Pro | Lys | Glu | Gly | Trp | Gln | Lys | Gly | Pro | Arg | Ser | Asp | Asn | Ser | Lys | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asn | Lys | Ile | Phe | Val | Gly | Gly | Ile | Pro | His | Asn | Cys | Gly | Glu | Thr | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Arg | Glu | Tyr | Phe | Lys | Lys | Phe | Gly | Val | Val | Thr | Glu | Val | Val | Met |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Ile | Tyr | Asp | Ala | Glu | Lys | Gln | Arg | Pro | Arg | Gly | Phe | Gly | Phe | Ile | Thr |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Phe | Glu | Asp | Glu | Gln | Ser | Val | Asp | Gln | Ala | Val | Asn | Met | His | Phe | His |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Asp | Ile | Met | Gly | Lys | Lys | Val | Glu | Val | Lys | Arg | Ala | Glu | Pro | Arg | Asp |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ser | Lys | Ser | Gln | Ala | Pro | Gly | Gln | Pro | Gly | Ala | Ser | Gln | Trp | Gly | Ser |
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| Arg | Val | Val | Pro | Asn | Ala | Ala | Asn | Gly | Trp | Ala | Gly | Gln | Pro | Pro | Pro |
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| Thr | Trp | Gln | Gln | Gly | Tyr | Gly | Pro | Gln | Gly | Met | Trp | Val | Pro | Ala | Gly |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Gln | Ala | Ile | Gly | Gly | Tyr | Gly | Pro | Pro | Pro | Ala | Gly | Arg | Gly | Ala | Pro |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Pro | Pro | Pro | Pro | Pro | Phe | Thr | Ser | Tyr | Ile | Val | Ser | Thr | Pro | Pro | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Gly | Phe | Pro | Pro | Pro | Gln | Gly | Phe | Pro | Gln | Gly | Tyr | Gly | Ala | Pro | Pro |
| | | 275 | | | | | 280 | | | | | 285 | | | |
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<211> 2061

<212> DNA

<213> Homo sapiens

<400> 4711

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<211> 187

<212> PRT

<213> Homo sapiens

<400> 4712

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| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Leu | Gln | Met | Asp | Val | Met | Pro | Gly | Glu | Gly | Asp | Leu | Pro | Gln | Met | Glu |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Val | Gly | Ser | Gly | Ser | Arg | Glu | Leu | Ser | Leu | Arg | Pro | Ser | Arg | Ser | Gly |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ala | Gln | Gln | Leu | Glu | Glu | Glu | Gly | Pro | Met | Glu | Glu | Glu | Glu | Ala | Gln |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Pro | Met | Ala | Ala | Pro | Glu | Gly | Lys | Arg | Ser | Leu | Ala | Asn | Gly | Pro | Asn |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ala | Gly | Glu | Gln | Pro | Gly | Gln | Val | Ala | Gly | Ala | Asp | Phe | Glu | Ser | Glu |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Asp | Glu | Gly | Glu | Glu | Phe | Asp | Asp | Trp | Glu | Asp | Asp | Tyr | Asp | Tyr | Pro |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Glu | Glu | Glu | Gln | Leu | Ser | Gly | Ala | Gly | Tyr | Arg | Val | Ser | Ala | Ala | Leu |
| | | 115 | | | | 120 | | | | | 125 | | | | |
| Glu | Glu | Ala | Asp | Lys | Met | Phe | Leu | Arg | Thr | Arg | Glu | Pro | Ala | Leu | Asp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gly | Gly | Phe | Gln | Met | His | Tyr | Glu | Lys | Thr | Pro | Phe | Asp | Gln | Leu | Ala |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Phe | Ile | Glu | Glu | Leu | Phe | Ser | Leu | Met | Val | Val | Asn | Arg | Leu | Thr | Glu |
| | | | 165 | | | | | 170 | | | | | 175 | | |
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<210> 4713

<211> 1324

<212> DNA

<213> Homo sapiens

<400> 4713

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<210> 4714

<211> 145

<212> PRT

<213> Homo sapiens

<400> 4714

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Val Gln Val Val Gly Arg Ala Phe Ala Arg Ala Leu Arg Gln Glu Phe
      35           40           45
Ala Ala Ser Arg Ala Ala Ala Asp Ala Arg Gly Arg Ala Gly His Arg
      50           55           60
Ser Ala Ala Ala Ser Asn Leu Ser Gly Leu Ser Leu Gln Glu Ala Gln
65      70           75           80
Gln Ile Leu Asn Val Ser Lys Leu Ser Pro Glu Glu Val Gln Lys Asn
      85           90           95
Tyr Glu His Leu Phe Lys Val Asn Asp Lys Ser Val Gly Gly Ser Phe
      100          105          110
Tyr Leu Gln Ser Lys Val Val Arg Ala Lys Glu Arg Leu Asp Glu Glu
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145

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<210> 4715

<211> 2051

<212> DNA

<213> Homo sapiens

<400> 4715

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840

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<210> 4716

<211> 239

<212> PRT

<213> Homo sapiens

<400> 4716

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| Ala | Leu | Arg | Val | Thr | Leu | Lys | Gln | Asp | Thr | His | Gly | Val | Gly | His | Asp |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Pro | Ala | Lys | Glu | Phe | Thr | Asn | His | Trp | Trp | Asn | Glu | Leu | Phe | Asn | Lys |

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Leu Leu Tyr Gln Lys Phe Val Lys Met Ala Thr Leu Thr Ser Gly Gly
      85              90              95
Glu Lys Pro Asn Lys Asp Leu Glu Ser Cys Ser Asp Asp Asp Asn Gln
      100              105              110
Gly Ser Lys Ser Pro Lys Ile Leu Thr Asp Glu Met Leu Leu Gln Ala
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Cys Glu Gly Arg Thr Ala His Lys Ala Ala Arg Leu Gly Ile Thr Met
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Lys Ala Lys Leu Ala Arg Leu Glu Ala Gln Glu Gln Ala Phe Leu Ala
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Arg Leu Lys Gly Gln Asp Pro Gly Ala Pro Gln Leu Gln Ser Glu Ser
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Lys Pro Pro Lys Lys Lys Lys Lys Lys Arg Arg Gln Lys Glu Glu Glu
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Glu Ala Thr Ala Ser Glu Arg Asn Asp Ala Asp Glu Lys His Pro Glu
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<210> 4717

<211> 2753

<212> DNA

<213> Homo sapiens

<400> 4717

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<211> 259

<212> PRT

<213> Homo sapiens

<400> 4718

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Gln | Lys | Arg | Gly | Arg | Arg | Glu | His | Lys | Ala | Leu | Ile | Lys | Gln | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asn | Leu | Asp | Ala | Phe | Asn | Glu | Arg | Asp | Pro | Tyr | Lys | Ala | Asp | Asp | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Arg | Glu | Glu | Glu | Glu | Glu | Asn | Asp | Asp | Asp | Asn | Ser | Leu | Glu | Gly | Glu |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Thr | Phe | Pro | Leu | Glu | Arg | Asp | Glu | Val | Met | Pro | Pro | Pro | Leu | Gln | His |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Pro | Gln | Thr | Asp | Arg | Leu | Thr | Cys | Pro | Lys | Gly | Leu | Pro | Trp | Ala | Pro |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Lys | Val | Arg | Glu | Lys | Asp | Ile | Glu | Met | Phe | Leu | Glu | Ser | Ser | Arg | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Phe | Ile | Gly | Tyr | Thr | Leu | Gly | Ser | Asp | Thr | Asn | Thr | Val | Val | Gly |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Leu | Pro | Arg | Pro | Ile | His | Glu | Ser | Ile | Lys | Thr | Leu | Lys | Gln | His | Lys |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Tyr | Thr | Ser | Ile | Ala | Glu | Val | Gln | Ala | Gln | Met | Lys | Glu | Glu | Tyr | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Arg | Ser | Pro | Leu | Ser | Gly | Gly | Glu | Glu | Glu | Val | Glu | Gln | Val | Pro | Ala |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Glu | Thr | Leu | Tyr | Gln | Gly | Leu | Leu | Pro | Ser | Leu | Pro | Gln | Tyr | Met | Ile |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ala | Leu | Leu | Lys | Ile | Leu | Leu | Ala | Ala | Ala | Pro | Thr | Ser | Lys | Ala | Lys |
| | | | 195 | | | | 200 | | | | | 205 | | | |
| Thr | Asp | Ser | Ile | Asn | Ile | Leu | Ala | Asp | Val | Leu | Pro | Glu | Glu | Met | Pro |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Thr | Thr | Val | Leu | Gln | Ser | Met | Lys | Leu | Gly | Val | Asp | Val | Asn | Arg | His |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Lys | Glu | Val | Ile | Val | Lys | Ala | Ile | Ser | Ala | Ala | Leu | Leu | Leu | Leu | Leu |

3902

| | | |
|---|-----|-----|
| 130 | 135 | 140 |
| Asp Gly Gly Tyr Thr Ser Ser Cys Phe Asn Leu Ser Ala Met Phe Leu | | |
| 145 | 150 | 155 |
| Gln Gly Ala Pro Gly Phe Pro Lys Asp Met Asp Leu Ala Cys Lys Tyr | | 160 |
| | 165 | 170 |
| Ser Met Lys Ala Cys Asp Leu Gly His Ile Trp Ala Cys Ala Asn Ala | | 175 |
| | 180 | 185 |
| Ser Arg Met Tyr | | 190 |
| 195 | | |

<210> 4721

<211> 1385

<212> DNA

<213> Homo sapiens

<400> 4721

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cgggtgtaggc cgctgcaggc caccatgaac cggcttcogg atgactacga cccctacgcg
180
gttgaagagc ctagecgacga ggagccggct ttgagcagct ctgaggatga agtggatgtg
240
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300
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360
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420
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480
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540
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600
gcacagagaa ggggttacca tggtttgga ccacagagat caggtcaaca acagcctgtt
660
ccaaatagtg atgctgtctt gaattgtcct gcctgcatga ccacactttg ccttgattgc
720
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780
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840
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1020
aattacccaa tactgtatat aaggcaaata tggacagtta ctttctctct gcctgttcat
1080
atccttcagt gacattgagg aagcagtgtt tctcttttta aaggagaata gttgtcaacc
1140

```

ttcattcacc tcttacatct ctcaccctct cctttttttt ttcttttgatt ttccccctta
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 1260
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 1380
 agctt
 1385

<210> 4722

<211> 285

<212> PRT

<213> Homo sapiens

<400> 4722

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Arg | Leu | Pro | Asp | Asp | Tyr | Asp | Pro | Tyr | Ala | Val | Glu | Glu | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Asp | Glu | Glu | Pro | Ala | Leu | Ser | Ser | Ser | Glu | Asp | Glu | Val | Asp | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Leu | His | Gly | Thr | Pro | Asp | Gln | Lys | Arg | Lys | Leu | Ile | Arg | Glu | Cys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Thr | Gly | Glu | Ser | Glu | Ser | Ser | Ser | Glu | Asp | Glu | Phe | Glu | Lys | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Met | Glu | Ala | Glu | Leu | Asn | Ser | Thr | Met | Lys | Thr | Met | Glu | Asp | Lys | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ser | Ser | Leu | Gly | Thr | Gly | Ser | Ser | Ser | Gly | Asn | Gly | Lys | Val | Ala | Thr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ala | Pro | Thr | Arg | Tyr | Tyr | Asp | Asp | Ile | Tyr | Phe | Asp | Ser | Asp | Ser | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Glu | Asp | Arg | Ala | Val | Gln | Val | Thr | Lys | Lys | Lys | Lys | Lys | Lys | Gln |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| His | Lys | Ile | Pro | Thr | Asn | Asp | Glu | Leu | Leu | Tyr | Asp | Pro | Glu | Lys | Asp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asn | Arg | Asp | Gln | Ala | Trp | Val | Asp | Ala | Gln | Arg | Arg | Gly | Tyr | His | Gly |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Leu | Gly | Pro | Gln | Arg | Ser | Arg | Gln | Gln | Gln | Pro | Val | Pro | Asn | Ser | Asp |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Val | Leu | Asn | Cys | Pro | Ala | Cys | Met | Thr | Thr | Leu | Cys | Leu | Asp | Cys |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Gln | Arg | His | Glu | Ser | Tyr | Lys | Thr | Gln | Tyr | Arg | Ala | Met | Phe | Val | Met |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Asn | Cys | Ser | Ile | Asn | Lys | Glu | Glu | Val | Leu | Arg | Tyr | Lys | Ala | Ser | Glu |
| | 210 | | | | 215 | | | | | | 220 | | | | |
| Asn | Arg | Lys | Lys | Arg | Arg | Val | His | Lys | Lys | Met | Arg | Ser | Asn | Arg | Glu |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Asp | Ala | Ala | Glu | Lys | Ala | Glu | Thr | Asp | Val | Glu | Glu | Ile | Tyr | His | Pro |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Val | Met | Cys | Thr | Glu | Cys | Ser | Thr | Glu | Val | Ala | Val | Tyr | Asp | Lys | Asp |
| | | | 260 | | | | | 265 | | | | | | 270 | |
| Glu | Val | Phe | His | Phe | Phe | Asn | Val | Leu | Ala | Ser | His | Ser | | | |
| | | 275 | | | | | 280 | | | | | 285 | | | |

<210> 4723
<211> 1213
<212> DNA
<213> Homo sapiens

<400> 4723
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120
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180
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240
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300
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360
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420
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480
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540
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600
aagccgtgcc cagtcgctgt gctctgagtc gtattccagc tcggcgccca cacacttgac
660
accatccagc agcatggggc tgccgtggtg ccggtccatg acgcgggcct gcaccgtcac
720
gcgcacacag gtgccagtgc caccttcgca ggctagcagt atctcctctt tgaggacgcc
780
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840
gaggagcttg aggtgcaggc tggggacagg tgccctcgcg acatccttgc tcagcctgtg
900
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960
gaccagaaag ctgctgtcac tctcctgggt gaccatgacc accgagtcac gcagcttctc
1020
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1080
ccggactctg ggcttgttgc ccttgttggc tgcagccatg gacgccctcc ctgccacgca
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1200
ggagccttgc tgt
1213

<210> 4724
<211> 54
<212> PRT
<213> Homo sapiens

<400> 4724

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Met Gly Pro Arg Arg His Arg Ala Ser Ser Ile Leu Pro Gln Thr Leu
 1           5           10           15
Val Gly Val Pro Val Gly Trp Gly Gly Glu Trp Gly Glu Pro Thr Pro
          20           25           30
Gly Pro Pro Ser Pro Phe Pro Arg Gln Ser Pro Phe Gly Leu Asn Pro
          35           40           45
Phe Leu Pro Ala Gly Asp
          50

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<210> 4725

<211> 366

<212> DNA

<213> Homo sapiens

<400> 4725

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120
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180
tggtctcacg tgtgtacctg cntctcttgc ccatgcntgt acgtgcacac gtgcctctgt
240
atgcatgcat gtatagctgt gtgcccatac cctcacgtga gaatacatat gcgcttgtgc
300
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360
acgcgt
366

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<210> 4726

<211> 122

<212> PRT

<213> Homo sapiens

<400> 4726

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Xaa Phe Leu Glu Gly Glu Leu Gly Arg Ser Arg Arg Thr Pro Ala Gly
 1           5           10           15
Gly Arg Gly Ala Met Leu Ala Ile Asp Thr Ala Ser Asp Ile Leu Ala
          20           25           30
His Val His Val Tyr Ser Arg Leu Cys Ala Cys Ala Arg Val Tyr Met
          35           40           45
His Met Cys Thr Gly Ala Cys Ala Cys Val Asn Thr Cys Ser His Val
          50           55           60
Cys Thr Cys Xaa Ser Cys Pro Cys Xaa Tyr Val His Thr Cys Leu Cys
65           70           75           80
Met His Ala Cys Ile Ala Val Cys Pro Tyr Pro His Val Arg Ile His
          85           90           95
Met Arg Leu Cys Leu His Leu Cys Met His Ala Ser Val Leu Leu Arg
          100          105          110
Ala Trp Val Cys Ile Cys Ala Cys Thr Arg
          115          120

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<210> 4727
<211> 2031
<212> DNA
<213> Homo sapiens

<400> 4727
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120
tagctgggat tacagggacc caccaccaca cccggctaata tttttttgta tttttactag
180
agacgggggtt tcactatggt ggccagactg gtctcgaaact cctaacctca tgatccgctc
240
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300
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360
gagactgcca gtctggcggt ggtatctgtc aggacatctg ggggtgtagcc aactcggatc
420
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480
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540
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660
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720
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780
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840
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900
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960
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1020
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1080
ccattcggtg tccagagatt tctgtacaca gggcgccagc ccaggcctga ggaagcagcg
1140
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1260
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1320
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1380
gaaccactgc ctacaaacca cctctcctg accctgaaga actgtgtgat tctgcccac
1440

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 1500
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 1620
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 1680
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 1740
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 1800
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 1860
 tatctagatg acctccttct ctgtagcccc tccctaaaaa actcccaaac tcacactgcc
 1920
 acccttctga atttccttac taataaaggc tatagggtct cccctttaa gaacagcttt
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 2031

<210> 4728

<211> 328

<212> PRT

<213> Homo sapiens

<400> 4728

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Pro | Val | Arg | Leu | Met | Lys | Val | Phe | Val | Thr | Arg | Arg | Ile | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Glu | Gly | Arg | Val | Ala | Leu | Ala | Arg | Ala | Ala | Asp | Cys | Glu | Val | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Trp | Asp | Ser | Asp | Glu | Pro | Ile | Pro | Ala | Lys | Glu | Leu | Glu | Arg | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Val | Ala | Gly | Ala | His | Gly | Leu | Leu | Cys | Leu | Leu | Ser | Asp | His | Val | Asp |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Lys | Arg | Ile | Leu | Asp | Ala | Ala | Gly | Ala | Asn | Leu | Lys | Val | Ile | Ser | Thr |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Met | Ser | Val | Gly | Ile | Asp | His | Leu | Ala | Leu | Asp | Glu | Ile | Lys | Lys | Arg |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Gly | Ile | Arg | Val | Gly | Tyr | Thr | Pro | Asp | Val | Leu | Thr | Asp | Thr | Thr | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Glu | Leu | Ala | Val | Ser | Leu | Leu | Leu | Thr | Thr | Cys | Arg | Arg | Leu | Pro | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Ile | Glu | Glu | Val | Lys | Asn | Gly | Gly | Trp | Thr | Ser | Trp | Lys | Pro | Leu |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Trp | Leu | Cys | Gly | Tyr | Gly | Leu | Thr | Gln | Ser | Thr | Val | Gly | Ile | Ile | Gly |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Leu | Gly | Arg | Ile | Gly | Gln | Ala | Ile | Ala | Arg | Arg | Leu | Lys | Pro | Phe | Gly |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Val | Gln | Arg | Phe | Leu | Tyr | Thr | Gly | Arg | Gln | Pro | Arg | Pro | Glu | Glu | Ala |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Ala | Glu | Phe | Gln | Ala | Glu | Phe | Val | Ser | Thr | Pro | Glu | Leu | Ala | Ala | Gln |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Ser | Asp | Phe | Ile | Val | Val | Ala | Cys | Ser | Leu | Thr | Pro | Ala | Thr | Glu | Gly |

| | | |
|---|-----|-----|
| 210 | 215 | 220 |
| Leu Cys Asn Lys Asp Phe Phe Gln Lys Met Lys Glu Thr Ala Val Phe | | |
| 225 | 230 | 235 |
| Ile Asn Ile Ser Arg Gly Asp Val Val Asn Gln Asp Asp Leu Tyr Gln | | 240 |
| | 245 | 250 |
| Ala Leu Ala Ser Gly Lys Ile Ala Ala Ala Gly Leu Asp Val Thr Ser | | 255 |
| | 260 | 265 |
| Pro Glu Pro Leu Pro Thr Asn His Pro Leu Leu Thr Leu Lys Asn Cys | | 270 |
| | 275 | 280 |
| Val Ile Leu Pro His Ile Gly Ser Ala Thr His Arg Thr Arg Asn Thr | | 285 |
| | 290 | 295 |
| Met Ser Leu Leu Ala Ala Asn Asn Leu Leu Ala Gly Leu Arg Gly Glu | | 300 |
| 305 | 310 | 315 |
| Pro Met Pro Ser Glu Leu Lys Leu | | 320 |
| | 325 | |

<210> 4729

<211> 753

<212> DNA

<213> Homo sapiens

<400> 4729

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120
cctgttggtg gatttgggga aattttttgt ttgtttttta tgatttgtat ttgactgaga
180
gaaaccact gaagacgtct gcgtgagaat agagaccacc gaggccgact cgcggggccgc
240
tgcaccacc gccaggaca aaaggagccc agcgtacta gctgcaccg attcctccca
300
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360
agcagctaca gttccaacag cgacttcaac tactcctacc ccaccaagca agctgctctg
420
aaaagccatt atgcagatgt agatcctgaa aaccagaact ttttacttga atcgaatttg
480
gggaagaaga agtatgaaac agaatttcat ccagggtacta cttcctttgg aatgtcagta
540
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600
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660
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720
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753

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<210> 4730

<211> 148

<212> PRT

<213> Homo sapiens

<400> 4730

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Ser Ser Ser Tyr Ser Ser Asn Ser Asp Phe Asn Tyr Ser Tyr Pro Thr
      20           25           30
Lys Gln Ala Ala Leu Lys Ser His Tyr Ala Asp Val Asp Pro Glu Asn
      35           40           45
Gln Asn Phe Leu Leu Glu Ser Asn Leu Gly Lys Lys Lys Tyr Glu Thr
      50           55           60
Glu Phe His Pro Gly Thr Thr Ser Phe Gly Met Ser Val Phe Asn Leu
65           70           75           80
Ser Asn Ala Ile Val Gly Ser Gly Ile Leu Gly Leu Ser Tyr Ala Met
      85           90           95
Ala Asn Thr Gly Ile Ala Leu Phe Ile Ile Leu Leu Thr Phe Val Ser
      100          105          110
Ile Phe Ser Leu Tyr Ser Val His Leu Leu Leu Lys Thr Ala Asn Glu
      115          120          125
Gly Gly Ser Leu Leu Tyr Glu Gln Leu Gly Tyr Lys Ala Ser Gly Leu
      130          135          140
Val Gly Lys Leu
145

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<210> 4731

<211> 2417

<212> DNA

<213> Homo sapiens

<400> 4731

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120
ttggaagaca gctgaggaaa aaggcgccaa taagacaaac tcacagatgg gatttatctc
180
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<210> 4732

<211> 129

<212> PRT

<213> Homo sapiens

<400> 4732

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Val | Ala | Pro | Cys | Gln | Pro | Ala | Leu | Arg | Glu | Asp | Arg | Val | Ser | His |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Ala | Arg | Met | Ala | Gly | His | Val | Ser | Val | Leu | Val | Ser | His | Phe | Pro | Pro |
| | | 35 | | | | | | 40 | | | | 45 | | | |
| Ser | Val | Thr | Tyr | Leu | Gly | Ile | Pro | Gln | Gly | Leu | Leu | Glu | Cys | Asp | Cys |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Pro | Leu | Pro | Ser | Cys | Leu | Gly | Tyr | Lys | Ser | Trp | Pro | Tyr | Val | Pro | Ala |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Val | Arg | Gly | Ser | Gly | Asn | Pro | Thr | Gln | Pro | Pro | Val | Leu | Gly | Trp | Ser |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Val | Ser | Ile | His | Pro | Leu | Val | Val | Ile | Glu | Ala | Ala | Leu | Pro | Val | Leu |
| | | | 100 | | | | | 105 | | | | 110 | | | |
| Gly | Glu | Asp | Ile | Trp | Ala | Thr | Arg | Ala | Pro | Leu | Ala | Pro | Ser | Arg | Arg |
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<210> 4733

<211> 543

<212> DNA

<213> Homo sapiens

<400> 4733

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420
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543

<210> 4734
 <211> 181
 <212> PRT
 <213> Homo sapiens

<400> 4734
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 35 40 45
 Gln Cys Val Ser Trp Asn Lys Glu Gln Gly Phe Ile Ala Cys Gly Gly
 50 55 60
 Glu Asp Gly Leu Leu Lys Val Leu Lys Leu Glu Thr Gln Thr Asp Asp
 65 70 75 80
 Ala Lys Leu Arg Gly Leu Ala Ala Pro Ser Asn Leu Ser Met Asn Gln
 85 90 95
 Thr Leu Glu Gly His Ser Gly Ser Val Gln Val Val Thr Trp Asn Glu
 100 105 110
 Gln Tyr Gln Lys Leu Thr Thr Ser Asp Glu Asn Gly Leu Ile Ile Val
 115 120 125
 Trp Met Leu Tyr Lys Gly Ser Trp Ile Glu Glu Met Ile Asn Asn Arg
 130 135 140
 Asn Lys Ser Val Val Arg Ser Met Ser Trp Asn Ala Asp Gly Gln Lys
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<210> 4735
 <211> 300
 <212> DNA
 <213> Homo sapiens

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<210> 4736
 <211> 93
 <212> PRT
 <213> Homo sapiens

<400> 4736

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      20           25           30
Lys Ser Gly Ala Ala Gly Gly Ser Ala Lys Ser Ser Ser Asn Gly Pro
      35           40           45
Val Ala Ser Ala Gln Tyr Val Ser Gln Ala Lys Ala Ser Ala Leu Gln
      50           55           60
Gln Gln Gln Tyr Tyr Gln Trp Tyr Gln Gln Asp Asn Tyr Ala Tyr Pro
65           70           75           80
Tyr Ser Tyr Tyr Tyr Pro Met Pro Pro Gly Pro Gly Met
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<210> 4737

<211> 2602

<212> DNA

<213> Homo sapiens

<400> 4737

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<210> 4738

<211> 756

<212> PRT

<213> Homo sapiens

<400> 4738

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Thr Met Trp Glu Arg Asp Val Ser Asp Arg Gln Glu Pro Gly Arg
      35           40           45
Arg Gly Arg Ser Trp Gly Leu Glu Gly Ser Gln Ala Leu Ser Gln Gln
      50           55           60
Ala Glu Val Ile Val Arg Gln Leu Gln Glu Leu Arg Arg Leu Glu Glu
      65           70           75           80
Glu Val Arg Leu Leu Arg Glu Thr Ser Leu Gln Gln Lys Met Arg Leu
      85           90           95
Glu Ala Gln Ala Met Glu Leu Glu Ala Leu Ala Arg Ala Glu Lys Ala
      100          105          110
Gly Arg Ala Glu Ala Glu Gly Leu Arg Ala Ala Leu Ala Gly Ala Glu
      115          120          125
Val Val Arg Lys Asn Leu Glu Glu Gly Arg Gln Arg Glu Leu Glu Glu
      130          135          140
Val Gln Arg Leu His Gln Glu Gln Leu Ser Ser Leu Thr Gln Ala His
      145          150          155          160
Glu Glu Ala Leu Ser Ser Leu Thr Ser Lys Ala Glu Gly Leu Glu Lys
      165          170          175
Ser Leu Ser Ser Leu Glu Thr Arg Arg Ala Gly Glu Ala Lys Glu Leu
      180          185          190
Ala Glu Ala Gln Arg Glu Ala Glu Leu Leu Arg Lys Gln Leu Ser Lys
      195          200          205
Thr Gln Glu Asp Leu Glu Ala Gln Val Thr Leu Val Glu Asn Leu Arg
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Lys Tyr Val Gly Glu Gln Val Pro Ser Glu Val His Ser Gln Thr Trp
      225          230          235          240
Glu Leu Glu Arg Gln Lys Leu Leu Glu Thr Met Gln Leu Leu Gln Glu
      245          250          255
Asp Arg Asp Ser Leu His Ala Thr Ala Glu Leu Leu Gln Val Arg Val
      260          265          270
Gln Ser Leu Thr His Ile Leu Ala Leu Gln Glu Glu Glu Leu Thr Arg
      275          280          285
Lys Val Gln Pro Ser Asp Ser Leu Glu Pro Glu Phe Thr Arg Lys Cys
      290          295          300
Gln Ser Leu Leu Asn Arg Trp Arg Glu Lys Val Phe Ala Leu Met Val
      305          310          315          320
Gln Leu Lys Ala Gln Glu Leu Glu His Ser Asp Ser Val Lys Gln Leu
      325          330          335
Lys Gly Gln Val Ala Ser Leu Gln Glu Lys Val Thr Ser Gln Ser Gln
      340          345          350
Glu Gln Ala Ile Leu Gln Arg Ser Leu Gln Asp Lys Ala Ala Glu Val
      355          360          365
Glu Val Glu Arg Met Gly Ala Lys Gly Leu Gln Leu Glu Leu Ser Arg

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Ala Gln Glu Ala Arg Arg Trp Trp Gln Gln Gln Thr Ala Ser Ala Glu
385              390              395              400
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      405              410              415
Leu Glu Thr Thr Met Ala Lys Val Glu Gly Ala Ala Ala Gln Leu Pro
      420              425              430
Ser Leu Asn Asn Arg Leu Ser Tyr Ala Val Arg Lys Val His Thr Ile
      435              440              445
Arg Gly Leu Ile Ala Arg Lys Leu Ala Leu Ala Gln Leu Arg Gln Glu
      450              455              460
Ser Cys Pro Leu Pro Pro Pro Val Thr Asp Val Ser Leu Glu Leu Gln
465              470              475              480
Gln Leu Arg Glu Glu Arg Asn Arg Leu Asp Ala Glu Leu Gln Leu Ser
      485              490              495
Ala Arg Leu Ile Gln Gln Glu Val Gly Arg Ala Arg Glu Gln Gly Glu
      500              505              510
Ala Glu Arg Gln Gln Leu Ser Lys Val Ala Gln Gln Leu Glu Gln Glu
      515              520              525
Leu Gln Gln Thr Gln Glu Ser Leu Ala Ser Leu Gly Leu Gln Leu Glu
      530              535              540
Val Ala Arg Gln Gly Gln Gln Glu Ser Thr Glu Glu Ala Ala Ser Leu
545              550              555              560
Arg Gln Glu Leu Thr Gln Gln Gln Glu Leu Tyr Gly Gln Ala Leu Gln
      565              570              575
Glu Lys Val Ala Glu Val Glu Thr Arg Leu Arg Glu Gln Leu Ser Asp
      580              585              590
Thr Glu Arg Arg Leu Asn Glu Ala Arg Arg Glu His Ala Lys Ala Val
      595              600              605
Val Ser Leu Arg Gln Ile Gln Arg Arg Ala Ala Gln Glu Lys Glu Arg
      610              615              620
Ser Gln Glu Leu Arg Arg Leu Gln Glu Glu Ala Arg Lys Glu Glu Gly
625              630              635              640
Gln Arg Leu Ala Arg Arg Leu Gln Glu Leu Glu Arg Asp Lys Asn Leu
      645              650              655
Met Leu Ala Thr Leu Gln Gln Glu Gly Leu Leu Ser Arg Tyr Lys Gln
      660              665              670
Gln Arg Leu Leu Thr Val Leu Pro Ser Leu Leu Asp Lys Lys Lys Ser
      675              680              685
Val Val Ser Ser Pro Arg Pro Pro Glu Cys Ser Ala Ser Ala Pro Val
      690              695              700
Ala Ala Ala Val Pro Thr Arg Glu Ser Ile Lys Gly Ser Leu Ser Val
705              710              715              720
Leu Leu Asp Asp Leu Gln Asp Leu Ser Glu Ala Ile Ser Lys Glu Glu
      725              730              735
Ala Val Cys Gln Gly Asp Asn Leu Asp Arg Cys Ser Ser Ser Asn Pro
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Gln Met Ser Ser
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<210> 4739

<211> 684

<212> DNA

<213> Homo sapiens

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<210> 4740
 <211> 119
 <212> PRT
 <213> Homo sapiens

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 Trp Leu Ser Asp Lys Asp Lys Glu Lys Ile Gln Met Ser Thr Arg Ala
 35 40 45
 Val His Ile Leu Trp Val Ser Trp Glu Gln Gly Trp Ala Val Pro Glu
 50 55 60
 Ala Pro Ser Gln Pro Ala Pro Gln Ala Ala Asn Gly Ser Leu Leu Leu
 65 70 75 80
 Gly Gln Gly Ile Cys Gly Gln Glu Ser Thr Leu Val Arg Arg Arg Leu
 85 90 95
 Ala Ser Asn Thr Gln Pro Cys Leu Arg Ala Pro Ala Val Glu Gly Ser
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 Gly Arg Val Gln Gly Ala Asp
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<210> 4741
 <211> 411
 <212> DNA
 <213> Homo sapiens

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 180
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 240
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<210> 4742
 <211> 109
 <212> PRT
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<400> 4742
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 Pro Glu Gly Gly Val Ser Lys Phe Ser Pro Pro Lys Asn Gln Ile Leu
 35 40 45
 Ser Phe Ile Pro Pro Pro Phe Pro Pro Phe Gly Phe Phe Lys Lys Phe
 50 55 60
 Pro Ser Phe Phe Arg Lys Gly Lys Gly Gly Glu Arg Gly Gly Gln Arg
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<210> 4743
 <211> 473
 <212> DNA
 <213> Homo sapiens

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<210> 4744
 <211> 150
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Lys Ala Pro Ala Gly Asp Gly Ser Gln Thr Arg Gly Lys Met Ser Glu
 50 55 60
 Gly Gly Arg Lys Ser Ser Leu Leu Gln Lys Ser Lys Ala Asp Ser Ser
 65 70 75 80
 Gly Val Gly Lys Gly Asp Leu Gln Ser Thr Leu Leu Glu Gly His Gly
 85 90 95
 Thr Ala Pro Pro Asp Leu Asp Leu Ser Ala Ile Asn Asp Lys Ser Ile
 100 105 110
 Val Lys Lys Thr Pro Gln Leu Ala Lys Thr Ile Ser Lys Lys Pro Glu
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| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| Thr | Thr | Val | Ala | Glu | Val | Asp | Glu | Ser | Asn | Gly | Glu | Glu | Lys | Ser | Glu | | |
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| Pro | Val | Ser | Glu | Ile | Glu | Thr | Ser | Val | Val | Lys | Gly | Ser | His | Phe | Pro | | |
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| Val | Gly | Val | Val | Pro | Pro | Arg | Ala | Lys | Ser | Pro | Thr | Pro | Glu | Ser | Ser | | |
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| Thr | Ile | Ala | Ser | Tyr | Val | Thr | Leu | Arg | Lys | Thr | Lys | Lys | Met | Met | Asp | | |
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| | | 180 | | | | | 185 | | | | | | 190 | | | | |
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<213> Homo sapiens

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| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Met | Glu | Glu | Glu | Thr | His | Thr | Asp | Ala | Lys | Ile | Arg | Ala | Glu | Asn | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Thr | Gly | Ser | Ser | Pro | Arg | Gly | Pro | Gly | Cys | Ser | Leu | Arg | His | Phe | Ala |
| | | | 35 | | | | | 40 | | | | | 45 | | |
| Cys | Glu | Gln | Asn | Leu | Leu | Ser | Arg | Pro | Asp | Gly | Ser | Ala | Ser | Phe | Leu |
| | | | 50 | | | | 55 | | | | 60 | | | | |
| Gln | Gly | Asp | Thr | Ser | Val | Leu | Ala | Gly | Val | Tyr | Gly | Pro | Ala | Glu | Val |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
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 50 55 60
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 65 70 75 80
 Gly Lys Thr Leu Leu Phe Val Arg Leu Leu Thr Gly Leu Tyr Arg Asp
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 Thr Gln Thr Ser Ile Thr Asp Ser Cys Ala Val Tyr Arg Val Asn Asn
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 Val Phe Val Val Asp Ser Ala Ala Phe Gln Arg Glu Val Lys Asp Val
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 Thr Pro Ser Phe Leu Ile Ala Cys Asn Lys Gln Asp Ile Ala Met Ala
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 Lys Ser Ala Lys Leu Ile Gln Gln Gln Leu Glu Lys Glu Leu Asn Thr
 195 200 205
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<212> PRT

<213> Homo sapiens

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| Phe | Arg | Gln | His | Leu | Leu | Ser | Pro | Ser | Lys | Tyr | His | Ser | Leu | Ser | Pro |
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| Leu | Leu | Asp | Ser | Leu | His | Val | Gln | Thr | Phe | Phe | His | Arg | Phe | Asp | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
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| | | 50 | | | | 55 | | | | | 60 | | | | |
| Met | Leu | Ala | Ala | Pro | Gln | Leu | Ile | Gln | Arg | Pro | Val | Met | Leu | Thr | Lys |
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| Phe | Thr | Pro | Thr | Thr | Leu | Pro | Thr | Ser | Gln | Asn | Ser | Ile | His | Pro | Val |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Arg | Val | Val | Asn | Gly | Gln | Thr | Ala | Thr | Ile | Ala | Lys | Thr | Phe | Pro | Met |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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| Ala | Gln | Leu | Thr | Ser | Ile | Val | Ile | Ala | Thr | Pro | Gly | Thr | Arg | Leu | Ala |
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| Gly | Pro | Gln | Thr | Val | Gln | Leu | Ser | Lys | Pro | Ser | Leu | Glu | Lys | Gln | Thr |
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| Val | Lys | Ser | His | Thr | Glu | Thr | Asp | Glu | Lys | Gln | Thr | Glu | Ser | Arg | Thr |
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| Ile | Thr | Pro | Pro | Ala | Ala | Pro | Lys | Pro | Lys | Arg | Glu | Glu | Asn | Pro | Gln |
| | | | | 165 | | | | | 170 | | | | | 175 | |
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| | | 180 | | | | | | 185 | | | | | 190 | | |
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| | 195 | | | | | | 200 | | | | 205 | | | | |
| Asn | Pro | Val | Tyr | Ser | Gly | Ala | Val | Phe | Glu | Pro | Glu | Arg | Lys | Lys | Ser |
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| Ala | Val | Thr | Tyr | Leu | Asn | Ser | Thr | Met | His | Pro | Gly | Thr | Arg | Lys | Arg |
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| Ala | Asn | Glu | Glu | His | Trp | Pro | Lys | Gly | Asp | Ile | His | Glu | Asp | Phe | Cys |
| | | | | 245 | | | | 250 | | | | | | 255 | |
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| | | 260 | | | | | 265 | | | | | | 270 | | |
| Arg | Val | Tyr | His | Leu | Asp | Cys | Leu | Asp | Pro | Pro | Leu | Lys | Thr | Ile | Pro |
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| Lys | Gly | Met | Trp | Ile | Cys | Pro | Arg | Cys | Gln | Asp | Gln | Met | Leu | Lys | Lys |
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| Glu | Glu | Ala | Ile | Pro | Trp | Xaa | Trp | Asn | Phe | Ser | Asn | Cys | Ser | Phe | Leu |
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<211> 5298

<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

<400> 4754

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 Trp Asn Val Arg Tyr Asp Glu Trp Ile Lys Ala Asp Lys Ile Val Arg
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Pro Ile Glu Glu Lys Thr Val Glu Val Asn Asp Arg Lys Ala Glu Phe
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465          470          475          480
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<211> 2093

<212> DNA

<213> Homo sapiens

<400> 4755

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<212> PRT

<213> Homo sapiens

<400> 4756

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| Leu | Glu | Asp | Gly | Ser | Pro | Ala | Lys | Gly | Glu | Pro | Ser | Gln | Ala | Trp | Arg |
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| Glu | Gln | Arg | Arg | Pro | Ser | Thr | Ser | Ser | Ala | Ser | Gly | Gln | Trp | Ser | Pro |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Thr | Pro | Glu | Trp | Val | Leu | Ser | Trp | Lys | Ser | Lys | Leu | Pro | Leu | Gln | Thr |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ile | Met | Arg | Leu | Leu | Gln | Val | Leu | Val | Pro | Gln | Val | Glu | Lys | Ile | Cys |
| | | | 100 | | | | 105 | | | | | 110 | | | |
| Ile | Asp | Lys | Gly | Leu | Thr | Asp | Glu | Ser | Glu | Ile | Leu | Arg | Phe | Leu | Gln |
| | 115 | | | | 120 | | | | 125 | | | | | | |
| His | Gly | Thr | Leu | Val | Gly | Leu | Leu | Pro | Val | Pro | His | Pro | Ile | Leu | Ile |
| | 130 | | | | 135 | | | | 140 | | | | | | |
| Arg | Lys | Tyr | Gln | Ala | Asn | Ser | Gly | Thr | Ala | Met | Trp | Phe | Arg | Thr | Tyr |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Met | Trp | Gly | Val | Ile | Tyr | Leu | Arg | Asn | Val | Asp | Pro | Pro | Val | Trp | Tyr |
| | | | 165 | | | | 170 | | | | | | 175 | | |
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<211> 272

<212> DNA

<213> Homo sapiens

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<211> 78

<212> PRT

<213> Homo sapiens

<400> 4760

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| Thr | Thr | Ala | Ala | Thr | Val | Ser | Val | Pro | Gln | Asp | Gly | Cys | Arg | Leu | Arg |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Lys | Gly | Gln | Thr | Lys | Thr | Leu | Phe | Glu | Phe | Ser | Ser | Ser | Arg | Ala | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Leu | Pro | Leu | Trp | Asp | Val | Ala | Ala | Thr | Asp | Phe | Gly | Gln | Thr | Asn |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gln | Lys | Phe | Gly | Phe | Glu | Leu | Gly | Pro | Val | Cys | Phe | Ser | Ser | | |
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<212> DNA

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| Thr | Glu | Glu | Thr | Glu | Lys | Leu | Lys | Asn | Asp | Gln | Gln | Ala | Lys | Ile | Pro | 20 | 25 | 30 | |
| Leu | Lys | Lys | Arg | Glu | Ile | Lys | Leu | Ser | Asp | Asp | Phe | Asp | Ser | Pro | Val | 35 | 40 | 45 | |
| Lys | Gly | Pro | Leu | Cys | Lys | Ser | Val | Thr | Pro | Thr | Lys | Glu | Phe | Leu | Lys | 50 | 55 | 60 | |
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| Gln | Ile | Glu | Glu | Pro | Asp | Pro | Pro | Glu | Met | Glu | Thr | Ser | Leu | Asp | Ser | | | | |

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| Glu | Glu | Val | Pro | Lys | Ser | Thr | Leu | Glu | Ser | Glu | Lys | Pro | Gly | Ser | Pro | |
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| Glu | Ala | Ala | Glu | Thr | Ser | Pro | Pro | Ser | Asn | Ile | Ile | Asp | His | Cys | Glu | |
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| Val | Gly | Gly | Gln | Ser | Val | Lys | Lys | Val | Asp | Leu | Glu | Thr | Leu | Lys | Glu | |
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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asp | Thr | Thr | Met | Ser | Leu | His | Ser | Gln | Ala | Ser | Ala | Thr | Thr | Arg | His |
| | | | 20 | | | | | 25 | | | | | | 30 | |
| Pro | Glu | Pro | Arg | Arg | Thr | Glu | His | Arg | Ala | Pro | Ser | Ser | Thr | Trp | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Val | Ala | Leu | Thr | Leu | Leu | Thr | Leu | Cys | Leu | Val | Leu | Leu | Ile | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Ala | Ala | Leu | Gly | Leu | Leu | Phe | Phe | Gln | Tyr | Tyr | Gln | Leu | Ser | Asn |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Thr | Gly | Gln | Asp | Thr | Ile | Ser | Gln | Met | Glu | Glu | Arg | Leu | Gly | Asn | Thr |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Ser | Gln | Glu | Leu | Gln | Ser | Leu | Gln | Val | Gln | Asn | Ile | Lys | Leu | Ala | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Leu | Gln | His | Val | Ala | Glu | Lys | Leu | Cys | Arg | Glu | Leu | Tyr | Asn | Lys |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Ala | Gly | Ala | His | Arg | Cys | Ser | Pro | Cys | Thr | Glu | Gln | Trp | Lys | Trp | His |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gly | Asp | Asn | Cys | Tyr | Gln | Phe | Tyr | Lys | Asp | Ser | Lys | Ser | Trp | Glu | Asp |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
| Cys | Lys | Tyr | Phe | Cys | Leu | Ser | Glu | Asn | Ser | Thr | Met | Leu | Lys | Ile | Asn |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Lys | Gln | Glu | Asp | Leu | Glu | Phe | Ala | Ala | Ser | Gln | Ser | Tyr | Ser | Glu | Phe |

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<210> 4767
<211> 1380
<212> DNA
<213> Homo sapiens
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3946

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 1140
 tgccaggtcg tggacgagca cctgcgggag actcaggcgc agtaccaggc cctggagcgc
 1200
 aagtacagca aggccaagcg cctcatcaag gactaccagc agaaggagat cgagttcctg
 1260
 aaaaaggaga ctgcacagcg tcgggttctg gaggagtcgg agctggccag aaaggaggag
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 1380

<210> 4768

<211> 460

<212> PRT

<213> Homo sapiens

<400> 4768

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Arg | Arg | Gly | Ala | Val | Ala | Pro | Pro | Glu | Arg | Gly | Val | Gly | Asn | Gly | 1 | 5 | 10 | 15 |
| Arg | Ala | Pro | Glu | Val | Ala | Pro | Glu | Glu | Val | Asp | Glu | Ser | Lys | Lys | Glu | 20 | 25 | 30 | |
| Asp | Phe | Ser | Glu | Ala | Asp | Leu | Val | Asp | Val | Ser | Ala | Tyr | Ser | Gly | Leu | 35 | 40 | 45 | |
| Gly | Glu | Asp | Ser | Ala | Gly | Ser | Ala | Leu | Glu | Glu | Asp | Asp | Glu | Asp | Asp | 50 | 55 | 60 | |
| Glu | Gly | Asp | Gly | Glu | Pro | Tyr | Glu | Pro | Glu | Ser | Gly | Cys | Val | Glu | | 65 | 70 | 75 | 80 |
| Ile | Pro | Gly | Leu | Ser | Glu | Glu | Glu | Asp | Pro | Ala | Pro | Ser | Arg | Lys | Ile | 85 | 90 | 95 | |
| His | Phe | Ser | Thr | Ala | Pro | Ile | Gln | Val | Phe | Ser | Thr | Tyr | Ser | Asn | Glu | 100 | 105 | 110 | |
| Asp | Tyr | Asp | Arg | Arg | Asn | Glu | Asp | Val | Asp | Pro | Met | Ala | Ala | Ser | Ala | 115 | 120 | 125 | |
| Glu | Tyr | Glu | Leu | Glu | Lys | Arg | Val | Glu | Arg | Leu | Glu | Leu | Phe | Pro | Val | 130 | 135 | 140 | |
| Glu | Leu | Glu | Lys | Asp | Ser | Glu | Gly | Leu | Gly | Ile | Ser | Ile | Ile | Gly | Met | 145 | 150 | 155 | 160 |
| Gly | Ala | Gly | Ala | Asp | Met | Gly | Leu | Glu | Lys | Leu | Gly | Ile | Phe | Val | Lys | 165 | 170 | 175 | |
| Thr | Val | Thr | Glu | Gly | Gly | Ala | Ala | His | Arg | Asp | Gly | Arg | Ile | Gln | Val | 180 | 185 | 190 | |
| Asn | Asp | Leu | Leu | Val | Glu | Val | Asp | Gly | Thr | Ser | Leu | Val | Gly | Val | Thr | 195 | 200 | 205 | |
| Gln | Ser | Phe | Ala | Ala | Ser | Val | Leu | Arg | Asn | Thr | Lys | Gly | Arg | Val | Arg | 210 | 215 | 220 | |
| Phe | Met | Ile | Gly | Arg | Glu | Arg | Pro | Gly | Glu | Gln | Ser | Glu | Val | Ala | Gln | 225 | 230 | 235 | 240 |
| Leu | Ile | Gln | Gln | Thr | Leu | Glu | Gln | Glu | Arg | Trp | Gln | Arg | Glu | Met | Met | 245 | 250 | 255 | |
| Glu | Gln | Arg | Tyr | Ala | Gln | Tyr | Gly | Glu | Asp | Asp | Glu | Glu | Thr | Gly | Glu | 260 | 265 | 270 | |
| Tyr | Ala | Thr | Asp | Glu | Asp | Glu | Glu | Leu | Ser | Pro | Thr | Phe | Pro | Gly | Gly | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 275 | | 280 | | 285 | | | | | | | | | | |
| Glu | Met | Ala | Ile | Glu | Val | Phe | Glu | Leu | Ala | Glu | Asn | Glu | Asp | Ala | Leu |
| | 290 | | | | | 295 | | | | 300 | | | | | |
| Ser | Pro | Val | Asp | Met | Glu | Pro | Glu | Lys | Leu | Val | His | Lys | Phe | Lys | Glu |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Gln | Ile | Lys | His | Ala | Val | Thr | Glu | Ala | Glu | Ile | Gln | Gln | Leu | Lys |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Arg | Lys | Leu | Gln | Ser | Leu | Glu | Gln | Glu | Lys | Gly | Arg | Trp | Arg | Val | Glu |
| | | 340 | | | | | | 345 | | | | 350 | | | |
| Lys | Ala | Gln | Leu | Glu | Gln | Ser | Val | Glu | Glu | Asn | Lys | Glu | Arg | Met | Glu |
| | 355 | | | | | 360 | | | | | 365 | | | | |
| Lys | Leu | Glu | Gly | Tyr | Trp | Gly | Glu | Ala | Gln | Ser | Leu | Cys | Gln | Ala | Val |
| 370 | | | | | | 375 | | | | | 380 | | | | |
| Asp | Glu | His | Leu | Arg | Glu | Thr | Gln | Ala | Gln | Tyr | Gln | Ala | Leu | Glu | Arg |
| 385 | | | | 390 | | | | | | 395 | | | | | 400 |
| Lys | Tyr | Ser | Lys | Ala | Lys | Arg | Leu | Ile | Lys | Asp | Tyr | Gln | Gln | Lys | Glu |
| | | | 405 | | | | | | 410 | | | | | 415 | |
| Ile | Glu | Phe | Leu | Lys | Lys | Glu | Thr | Ala | Gln | Arg | Arg | Val | Leu | Glu | Glu |
| | | 420 | | | | | | 425 | | | | | 430 | | |
| Ser | Glu | Leu | Ala | Arg | Lys | Glu | Glu | Met | Asp | Lys | Leu | Leu | Asp | Lys | Ile |
| | 435 | | | | | | | 440 | | | | 445 | | | |
| Ser | Glu | Leu | Glu | Gly | Asn | Leu | Gln | Thr | Leu | Arg | Asn | | | | |
| | 450 | | | | | 455 | | | | | 460 | | | | |

<210> 4769

<211> 1533

<212> DNA

<213> Homo sapiens

<400> 4769

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120
ggtcacacga ggggcatttt ccttggttga agtgtagtct aaaccagtag gaaggaggtt
180
taattgccaa aaccagcgag aactcgggca ctgtggatac tacagtgggc agctgaacga
240
ggaccaagga gaatgtctaa gaggcctcca gccctgcgct cagtgaagac aggacaggaa
300
caacagagca tacatacctt ggaagggtgt gttctgatat actcgtatgg aaagtcttga
360
caggttttct ccctgggaag tgcagcacat accccaacac actggctctg ccagtgtgcc
420
aatcccagat ggtgcttgct ttgtgtgcac ccacacccaa acccctgccc tcccatatgc
480
tcttctgtgt gccaggttag gccctgccct caggcagcag cttctgaaca cattcctctt
540
ggcgcagaca aaagaaagta ctctgtctgt ggaattcgag gctgagcctg agttctagca
600
caagaagacc gttgcagtcc agagatgaga aactggacca gaggcaaata atgaacagaa
660
cgggagtcaa gagaaggggt ttctaagatg gagaagtggg ggcgggtgtg gatccagtgg
720

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gatgtggctt ccccaggttg caacccaag gaagtctctg gaagcagcac cagtctgat
 780
 gggggagcag aagagctgcc atcctcagtc aggggtccgag tcaggggtccg aggagagctg
 840
 ctgctccata gtctcgaca tggcatcctg cagggacgta agatgacccc ggggactcat
 900
 cccattggc tggatgactc tgttctgtt ggggaaaggt gcagtggggc tggagagctt
 960
 gtcaaacatg gtcaccagct tcatggcctc gtgctccttc tgctctctg tcatgccctc
 1020
 catagggtta ggcggcttct cctccaccct cccggtcaca gggtttatgc tggttttggc
 1080
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 1140
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 1200
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 1260
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 1320
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 1380
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 1440
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 1533

<210> 4770

<211> 237

<212> PRT

<213> Homo sapiens

<400> 4770

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Val | Asn | Met | Asp | Val | Ile | Asn | Ala | Leu | Leu | Ala | Phe | Leu | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Arg | Leu | His | Gln | Thr | His | Arg | Leu | Lys | Glu | Cys | Val | Ala | Pro | Val |
| | | | 20 | | | | | | 25 | | | | 30 | | |
| Leu | Ser | Val | Leu | Thr | Glu | Cys | Ala | Arg | Met | His | Arg | Pro | Ala | Arg | Lys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Leu | Lys | Ala | Gln | Val | Leu | Pro | Pro | Leu | Arg | Asp | Val | Arg | Thr | Arg |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Pro | Glu | Val | Gly | Asp | Leu | Leu | Arg | Asn | Lys | Leu | Val | Arg | Leu | Met | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| His | Leu | Asp | Thr | Asp | Val | Lys | Arg | Val | Ala | Ala | Glu | Phe | Leu | Phe | Val |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Cys | Ser | Glu | Ser | Val | Pro | Arg | Phe | Ile | Lys | Tyr | Thr | Gly | Tyr | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asn | Ala | Ala | Gly | Leu | Leu | Ala | Ala | Arg | Gly | Leu | Met | Ala | Gly | Gly | Arg |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Pro | Glu | Gly | Gln | Tyr | Ser | Glu | Asp | Glu | Asp | Thr | Asp | Thr | Asp | Glu | Tyr |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Lys | Glu | Ala | Lys | Ala | Ser | Ile | Asn | Pro | Val | Thr | Gly | Arg | Val | Glu | Glu |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 | | 150 | | 155 | | 160 | | | | | | | | | |
| Lys | Pro | Pro | Asn | Pro | Met | Glu | Gly | Met | Thr | Glu | Glu | Gln | Lys | Glu | His |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Glu | Ala | Met | Lys | Leu | Val | Thr | Met | Phe | Asp | Lys | Leu | Ser | Ser | Pro | Thr |
| | | | 180 | | | | | 185 | | | | | | 190 | |
| Ala | Pro | Phe | Pro | Asn | Arg | Asn | Arg | Val | Ile | Gln | Pro | Met | Gly | Met | Ser |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Pro | Arg | Gly | His | Leu | Thr | Ser | Leu | Gln | Asp | Ala | Met | Cys | Glu | Thr | Met |
| | 210 | | | | | 215 | | | | 220 | | | | | |
| Glu | Gln | Gln | Leu | Ser | Ser | Asp | Pro | Asp | Ser | Asp | Pro | Asp | | | |
| 225 | | | | | 230 | | | | | 235 | | | | | |

<210> 4771

<211> 2653

<212> DNA

<213> Homo sapiens

<400> 4771

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120
tgggcaccac aggtaaggca ctgcctgggg gctggaggag gctggaggag gatgcccagg
180
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240
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300
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360
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420
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480
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600
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660
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720
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780
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840
aaaggggcac acagaggcag tggggaagct ggagttcttg ggctggcagg gaatggtggc
900
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960
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1020
cccaggctag accctccata cacaccagg ctagaccctc catactcacc caggctagac
1080

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cctccatata caccaggt agaccctcca tactcaccca ggctagaccc tccataactca
1140
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1200
cctccgtact caccaggt agaccctccg tactcaccca ggctagaccc tccgtacaca
1260
cccaggctag accctccgta cacacccaga ctagaggctt ggggctgaga aaagcagtca
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1380
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1440
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1620
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1680
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1740
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1800
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1860
gaaaagggtta aggaagctgg aagttctatg agaaagcgtg ctaagttgat atcaactgtt
1920
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1980
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2040
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2100
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2160
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2220
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2280
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2340
ataattttta gcattgttcc tcagaacatt tgtaaaagga tatatttctg cttgaccagc
2400
gagatgtgca ttttgccagg atcatattgg tcatgtctat tgggtgatta tttcagtatc
2460
accaatgttt tcagaaatac agtactaatt catcattaaa ctctttgaag ttaatatatt
2520
tctgccttct aacttataga ctcaactatg tatctgtagt ttttgggaat ggttgggtgt
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2640
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2653

<210> 4772
 <211> 182
 <212> PRT
 <213> Homo sapiens

<400> 4772
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 20 25 30
 Ile Lys Gln Arg Asp Lys Arg Leu Glu Trp Glu Met Met Cys Arg Val
 35 40 45
 Lys Pro Asp Val Val Gln Asp Lys Glu Thr Glu Arg Asn Leu Gln Arg
 50 55 60
 Ile Ala Thr Arg Gly Val Val Gln Leu Phe Asn Ala Val Gln Lys His
 65 70 75 80
 Gln Lys Asn Val Asp Glu Lys Val Lys Glu Ala Gly Ser Ser Met Arg
 85 90 95
 Lys Arg Ala Lys Leu Ile Ser Thr Val Ser Lys Lys Asp Phe Ile Ser
 100 105 110
 Val Leu Arg Gly Met Asp Gly Ser Thr Asn Glu Thr Ala Ser Ser Arg
 115 120 125
 Lys Lys Pro Lys Ala Lys Gln Thr Glu Val Lys Ser Glu Glu Gly Pro
 130 135 140
 Gly Trp Thr Ile Leu Arg Asp Asp Phe Met Met Gly Ala Ser Met Lys
 145 150 155 160
 Asp Trp Asp Lys Glu Ser Asp Gly Pro Asp Asp Ser Arg Pro Glu Ser
 165 170 175
 Ala Ser Asp Ser Asp Thr
 180

<210> 4773
 <211> 319
 <212> DNA
 <213> Homo sapiens

<400> 4773
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 120
 tgctgcaggc cccagcccag gcccaaccca agcagtctct tcccacccag cccccaggcc
 180
 cgggcggcaa tggggtggcg agtacttgcc tggaccacag atcccatctc ctcagctctc
 240
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 300
 ccccaacccc ttcacgcgt
 319

<210> 4774
 <211> 91
 <212> PRT

<213> Homo sapiens

<400> 4774

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Ala Thr Glu Gly Asp Lys Ile Pro Lys Cys Cys Arg Pro Gln Pro Arg
          20          25          30
Pro Asn Pro Ser Ser Leu Phe Pro Pro Ser Pro Gln Ala Arg Ala Ala
          35          40          45
Met Gly Trp Arg Val Leu Ala Trp Thr Gln His Pro Ile Ser Ser Ala
          50          55          60
Leu Ser Leu Asp Pro Ala Ser His Leu Leu Ser Ser Gln Gly Gly Gly
65          70          75          80
Ser Trp Glu Pro His Pro Gln Pro Leu His Ala
          85          90

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<210> 4775

<211> 433

<212> DNA

<213> Homo sapiens

<400> 4775

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120
tgggcttaaa catgaaccaa catggcggat gcttcaagca agtggggttg ctgggcccta
180
aagggtggaga ggggtgaaat gaaaagactc gcctcttctt cccccactaa ctccctcctc
240
tggtctgact gccctccttg ctatttcttt gaacgtgcc aaccataccgc gacctcactg
300
cccttgact tgctctctct gcttctccta actatacatg cggctcatcc tgtaacttcc
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433

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<210> 4776

<211> 97

<212> PRT

<213> Homo sapiens

<400> 4776

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          20          25          30
Leu Trp Leu His Cys Pro Pro Cys Tyr Phe Phe Glu Arg Ala Asn His
          35          40          45
Thr Ala Thr Ser Leu Pro Leu His Leu Leu Ser Leu Leu Leu Leu Thr
          50          55          60
Ile His Ala Ala His Pro Val Thr Ser Phe Gln Phe Leu Leu Thr Phe

```

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| 65 | | 70 | | 75 | | 80 |
| Leu | Lys | Arg | Pro | Ser | Leu | Thr |
| | | | | Ile | Leu | Phe |
| | | | | Asn | Ile | Pro |
| | | | | Pro | Pro | Arg |
| | | | | | | Leu |
| | | 85 | | 90 | | 95 |
| Asn | | | | | | |

<210> 4777
 <211> 2200
 <212> DNA
 <213> Homo sapiens

<400> 4777
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 120
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 300
 caggacctgc tggagagga cgactcggcg ggaggagtct gtctccatgt ggacaaggat
 360
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 420
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| | | 35 | | | | | 40 | | | | 45 | | | | |
| Arg | Ile | Ala | Gln | Tyr | Leu | Lys | Gly | Leu | Glu | Val | Leu | Glu | Leu | Gly | Gly |
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| Cys | Ser | Asn | Ile | Thr | Asn | Thr | Gly | Leu | Leu | Leu | Ile | Ala | Trp | Gly | Leu |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Gln | Arg | Leu | Lys | Ser | Leu | Asn | Leu | Arg | Ser | Cys | Arg | His | Leu | Ser | Asp |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Val | Gly | Ile | Gly | His | Leu | Ala | Gly | Met | Thr | Arg | Ser | Ala | Ala | Glu | Gly |
| | | | 100 | | | | 105 | | | | | | 110 | | |
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Asn Ile Ser Asp Thr Gly Ile Met His Leu Ala Met Gly Ser Leu Arg
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<211> 322

<212> PRT

<213> Homo sapiens

<400> 4786

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| Gln | Asn | Thr | Gly | Leu | Gly | Pro | Glu | Lys | Thr | Ser | Phe | Phe | Gln | Ala | Leu |
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| Pro | Gly | Gln | Lys | Lys | Cys | Tyr | Ser | Cys | Pro | Val | Cys | Ser | Arg | Val | Phe |
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| His | Gly | Cys | Pro | Leu | Cys | Pro | Arg | Arg | Phe | Arg | Asp | Ala | Gly | Glu | Leu |
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<212> DNA

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<213> Homo sapiens

<400> 4790

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      35           40           45
Thr Phe Glu Leu Phe Leu Thr Ile Ile Asp Gly Pro Ala Asn Tyr Asn
      50           55           60
Val Asp Leu Pro Phe Met Tyr Ser Ile Thr Tyr Ala Ala Phe Ala Ile
      65           70           75           80
Ile Ala Thr Leu Leu Met Leu Asn Leu Leu Ile Ala Met Met Gly Asp
      85           90           95
Thr His Trp Arg Val Ala His Glu Arg Asp Glu Leu Trp Arg Ala Gln
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Ile Val Ala Thr Thr Val Met Leu Glu Arg Lys Leu Pro Arg Cys Leu
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Trp Pro Arg Ser Gly Ile Cys Gly Arg Glu Tyr Gly Leu Gly Asp Arg
      130          135          140
Trp Phe Leu Arg Val Glu Asp Arg Gln Asp Leu Asn Arg Gln Arg Ile
      145          150          155          160
Gln Arg Tyr Ala Gln Ala Phe His Thr Arg Gly Ser Glu Asp Leu Asp
      165          170          175
Lys Asp Ser Val Glu Lys Leu Glu Leu Gly Cys Pro Phe Ser Pro His
      180          185          190
Leu Ser Leu Pro Met Pro Ser Val Ser Arg Ser Thr Ser Arg Ser Ser
      195          200          205
Ala Asn Trp Glu Arg Leu Arg Gln Gly Thr Leu Arg Arg Asp Leu Arg
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<211> 4481

<212> DNA

<213> Homo sapiens

<400> 4791

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| Ser | Lys | Ile | Lys | Leu | His | Thr | Tyr | His | His | Leu | Ile | Val | Asp | Lys | Ala |
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| Asn | Lys | Asn | Lys | Gln | Trp | Gly | Lys | Gly | Thr | Leu | Phe | Asn | Lys | Trp | Cys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Asp | Asn | Ser | Leu | Ala | Ile | Cys | Arg | Ile | Val | Lys | Leu | Asp | Pro | Tyr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Ser | Arg | Tyr | Thr | Lys | Ile | Asn | Ser | Arg | Trp | Ile | Lys | Asp | Leu | Asn |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ile | Lys | Pro | Lys | Ser | Ile | Lys | Phe | Leu | Glu | Asp | Asn | Pro | Gly | Asn | Ala |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Ile | Leu | Asp | Ile | Ser | Ala | Gly | Lys | Asp | Leu | Met | Met | Asn | Thr | Xaa | Lys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
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<210> 4794

<211> 118

<212> PRT

<213> Homo sapiens

<400> 4794

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| 1 | | | 5 | | | | | | 10 | | | | | 15 | |
| Arg | Val | Gly | Gln | Gly | Arg | Ala | Asn | Asp | Thr | Phe | Pro | Leu | Ala | Lys | Glu |
| | | 20 | | | | | | 25 | | | | | 30 | | |
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| | | 35 | | | | | 40 | | | | | 45 | | | |
| Thr | Ser | Ser | Val | Ala | Gly | Arg | Gln | Pro | Gly | Ala | Phe | Ser | Glu | Glu | Lys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Pro | Val | Ile | Ile | Pro | Gln | Met | Leu | Leu | Glu | Leu | Trp | Ala | Gln | Gly |
| 65 | | | | 70 | | | | | | 75 | | | | 80 | |
| Asn | Arg | Pro | Ile | Met | Val | Leu | Pro | Glu | Gly | Leu | His | Leu | Leu | Tyr | Thr |
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| Arg | His | Lys | Ile | Arg | Leu | Pro | Arg | Glu | Glu | Pro | Ser | Asp | Ser | Val | Gln |
| | | | 100 | | | | | 105 | | | | | | 110 | |
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<210> 4796

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Val Pro Gly Leu Ser Ile Pro Thr Ser Ser Trp Leu Pro Leu Met Lys
65              70              75              80
Gly Pro Pro Glu Val Ala Gln Ser Asn Ile Gln Thr Gln Pro Val Asn
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Lys Leu Thr Gln Asn Gly Thr Arg Ser Gln Trp Gly Leu Ser Leu Pro
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 aaaattcaga acttttttta ttgataatgg agattgctgt ttgagttttt aaacttaatc
 2700
 tagaacagag gagtattaaa agtaatgctg tgctgcatta tttaagacta tcagcaaatt
 2760
 atttgataga ttgttcttac aacttgatt ctgattacag aaccatcatg agtgtggaat
 2820
 aaatactgga ttaaatacctt taaaaaaaa
 2848

<210> 4798

<211> 401

<212> PRT

<213> Homo sapiens

<400> 4798

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Leu | Ile | Thr | His | Thr | Asp | Ser | Pro | Tyr | Ile | Arg | Ala | Leu | Gly | 1 | 5 | 10 | 15 |
| Phe | Met | Tyr | Ile | Arg | Tyr | Thr | Gln | Pro | Pro | Thr | Asp | Leu | Trp | Asp | Trp | 20 | 25 | 30 | |
| Phe | Glu | Ser | Phe | Leu | Asp | Asp | Glu | Glu | Asp | Leu | Asp | Val | Lys | Ala | Gly | 35 | 40 | 45 | |
| Gly | Gly | Cys | Val | Met | Thr | Ile | Gly | Glu | Met | Leu | Arg | Ser | Phe | Leu | Thr | 50 | 55 | 60 | |
| Lys | Leu | Glu | Trp | Phe | Ser | Thr | Leu | Phe | Pro | Arg | Ile | Pro | Val | Pro | Val | 65 | 70 | 75 | 80 |
| Gln | Lys | Asn | Ile | Asp | Gln | Gln | Ile | Lys | Thr | Arg | Pro | Arg | Lys | Ile | Lys | 85 | 90 | 95 | |
| Lys | Asp | Gly | Lys | Glu | Gly | Ala | Glu | Glu | Ile | Asp | Arg | His | Val | Glu | Arg | 100 | 105 | 110 | |
| Arg | Arg | Ser | Arg | Ser | Pro | Arg | Arg | Ser | Leu | Ser | Pro | Arg | Arg | Ser | Pro | 115 | 120 | 125 | |
| Arg | Arg | Ser | Arg | Ser | Arg | Ser | His | His | Arg | Glu | Gly | His | Gly | Ser | Ser | 130 | 135 | 140 | |
| Ser | Phe | Asp | Arg | Glu | Leu | Glu | Arg | Glu | Lys | Glu | Arg | Gln | Arg | Leu | Glu | 145 | 150 | 155 | 160 |
| Arg | Glu | Ala | Lys | Glu | Arg | Glu | Lys | Glu | Arg | Arg | Ser | Arg | Ser | Ile | | 165 | 170 | 175 | |
| Asp | Arg | Gly | Leu | Glu | Arg | Arg | Arg | Ser | Arg | Ser | Arg | Glu | Arg | His | Arg | 180 | 185 | 190 | |
| Ser | Arg | Ser | Arg | Ser | Arg | Asp | Arg | Lys | Gly | Asp | Arg | Arg | Asp | Arg | Asp | 195 | 200 | 205 | |
| Arg | Glu | Arg | Glu | Lys | Glu | Asn | Glu | Arg | Gly | Arg | Arg | Arg | Asp | Arg | Asp | 210 | 215 | 220 | |
| Tyr | Asp | Lys | Glu | Arg | Gly | Asn | Glu | Arg | Glu | Lys | Glu | Arg | Glu | Arg | Ser | 225 | 230 | 235 | 240 |
| Arg | Glu | Arg | Ser | Lys | Glu | Gln | Arg | Ser | Arg | Gly | Glu | Val | Glu | Glu | Lys | 245 | 250 | 255 | |
| Lys | His | Lys | Glu | Asp | Lys | Asp | Asp | Arg | Arg | His | Arg | Asp | Asp | Lys | Arg | 260 | 265 | 270 | |
| Asp | Ser | Lys | Lys | Glu | Lys | Lys | His | Ser | Arg | Ser | Arg | Ser | Arg | Glu | Arg | | | | |

```

      275              280              285
Lys His Arg Ser Arg Ser Arg Ser Arg Asn Ala Gly Lys Arg Ser Arg
      290              295              300
Ser Arg Ser Lys Glu Lys Ser Ser Lys His Lys Asn Glu Ser Lys Glu
305              310              315              320
Lys Ser Asn Lys Arg Ser Arg Ser Gly Ser Gln Gly Arg Thr Asp Ser
              325              330              335
Val Glu Lys Ser Lys Lys Arg Glu His Ser Pro Ser Lys Glu Lys Ser
              340              345              350
Arg Lys Arg Ser Arg Ser Lys Glu Arg Ser His Lys Arg Asp His Ser
              355              360              365
Asp Ser Lys Asp Gln Ser Asp Lys His Asp Arg Arg Arg Ser Gln Ser
              370              375              380
Ile Glu Gln Glu Ser Gln Glu Lys Gln His Lys Asn Lys Asp Glu Thr
385              390              395              400
Val

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<210> 4799

<211> 358

<212> DNA

<213> Homo sapiens

<400> 4799

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120
ctggatcagc ctcatcaccg agtggctcaa cctcatcttc aagtgggtgag acagagaagc
180
cctccggcat cctgggtccc acccccgagg gccctgagtc atgtgtttct ttttggagac
240
aggccctttt ggtgggtcca tgagtctggt tactacagcc aggtccagc ccaggttcac
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358

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<210> 4800

<211> 119

<212> PRT

<213> Homo sapiens

<400> 4800

```

Ala Ser Leu Ala Gly Glu Arg Val Ala Leu Asp His Leu Ser Gly Arg
 1              5              10              15
Ser Gln Asp Pro Leu Ser Val Leu Leu Pro Arg Gly Leu Leu Arg Leu
              20              25              30
Pro Pro Cys Gly His Arg Gly Ala Leu Asp Gln Pro His His Arg Val
              35              40              45
Ala Gln Pro His Leu Gln Val Val Arg Gln Arg Ser Pro Pro Ala Ser
              50              55              60
Trp Ser Pro Pro Pro Arg Ala Leu Ser His Val Phe Leu Phe Gly Asp
65              70              75              80
Arg Pro Phe Trp Trp Val His Glu Ser Gly Tyr Tyr Ser Gln Ala Pro

```

| | | | | | |
|---|-----|--|-----|--|-----|
| | 85 | | 90 | | 95 |
| Ala Gln Val His Gln Phe Pro Ser Ser Cys Glu Thr Gly Pro Gly Ser | | | | | |
| | 100 | | 105 | | 110 |
| Pro Ser Gly His Cys Met Ile | | | | | |
| | 115 | | | | |

<210> 4801
 <211> 1447
 <212> DNA
 <213> Homo sapiens

<400> 4801
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 120
 atagccgagg cgctacagaa ccagctagcc tggctggaga acgtgtggct ctggatcacc
 180
 tttctgggag atcccaagat cctctttctg ttctacttcc ccgcggccta ctacgctcc
 240
 cgccgtgtgg gcatcgcggt gctctggatc agcctcatca ccgagtggct caacctcatc
 300
 ttcaagtggg ttcttttttg agacaggccc ttttgggtgg tccatgagtc tggttactac
 360
 agccaggctc cagcccaggg tcaccagttc cctctttctt gtgagactgg tccaggcagc
 420
 ccttctggac actgcatgat cacaggagca gccctctggc ccataatgac agccctgtct
 480
 tcgcagggtg ccactcgggc ccgcagccgc tgggtaaggg tgatgcctag cctggcttat
 540
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 600
 cagggtgctg ctggcctaata aactggcgct gtccctgggt ggctgatgac tnnccccgag
 660
 tgcctatgga gcgggagcgt aagcttctat ggggtgactg cactggccct catgctaggc
 720
 accagcctca tctattggac cctctttaca ctgggcctgg atctttcttg gtccatcagc
 780
 ctacacctca agtgggtgtg gcggcctgag tggatacacg tggatagccg gccctttgcc
 840
 tccttgagcc gtgactcagg ggtgcccctg ggccctggga ttgccttgca ctctccctgc
 900
 tatgcccagg tgcgtcgggc acagctggga aatggccaga agatagcctg ccttgtgctg
 960
 gccatggggc tgctggggccc cctggactgg ctggggccacc cccctcagat cagcctcttc
 1020
 tacattttca atttccctca gtacaccctc tggccatgcc tagtccctggc cctcgtgccc
 1080
 tgggcagtgc acatgttcag tgcccaggaa gcaccgccc tccactcttc ctgacttctt
 1140
 gtgtgcctcc ctttcccttc cctcccacaa agccaacact ctgtgaccac cacactccag
 1200
 gaggcagccc catcccttc cagcccctaa gtaggccctc cctccctaa atctgcttcc
 1260

gcaccacctg gtcttagccc caaagatggg ccttctctct cccagataag ttggtcctcc
 1320
 ctctgccttt cctctcaagc ccccaaagag caaaggcaac agcaagacca gcggttctct
 1380
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 1440
 aaaaaaa
 1447

<210> 4802

<211> 377

<212> PRT

<213> Homo sapiens

<400> 4802

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Glu | Ile | Arg | Gly | Ser | Thr | Leu | Leu | Arg | Cys | Leu | Asp | Ser | Gly | Phe |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Pro | Gly | Ala | Ser | Arg | Gly | Leu | Val | Gly | Ser | Trp | Ala | Ala | Met | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Thr | Leu | Gly | Ala | Gly | Ile | Val | Ile | Ala | Glu | Ala | Leu | Gln | Asn | Gln |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Ala | Trp | Leu | Glu | Asn | Val | Trp | Leu | Trp | Ile | Thr | Phe | Leu | Gly | Asp |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Lys | Ile | Leu | Phe | Leu | Phe | Tyr | Phe | Pro | Ala | Ala | Tyr | Tyr | Ala | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Arg | Arg | Val | Gly | Ile | Ala | Val | Leu | Trp | Ile | Ser | Leu | Ile | Thr | Glu | Trp |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Leu | Asn | Leu | Ile | Phe | Lys | Trp | Phe | Leu | Phe | Gly | Asp | Arg | Pro | Phe | Trp |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Trp | Val | His | Glu | Ser | Gly | Tyr | Tyr | Ser | Gln | Ala | Pro | Ala | Gln | Val | His |
| | | 115 | | | | | 120 | | | | | | 125 | | |
| Gln | Phe | Pro | Ser | Ser | Cys | Glu | Thr | Gly | Pro | Gly | Ser | Pro | Ser | Gly | His |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Cys | Met | Ile | Thr | Gly | Ala | Ala | Leu | Trp | Pro | Ile | Met | Thr | Ala | Leu | Ser |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Ser | Gln | Val | Ala | Thr | Arg | Ala | Arg | Ser | Arg | Trp | Val | Arg | Val | Met | Pro |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Ser | Leu | Ala | Tyr | Cys | Thr | Phe | Leu | Leu | Ala | Val | Gly | Leu | Ser | Arg | Ile |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Phe | Ile | Leu | Ala | His | Phe | Pro | His | Gln | Val | Leu | Ala | Gly | Leu | Ile | Thr |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Gly | Ala | Val | Leu | Gly | Trp | Leu | Met | Thr | Xaa | Pro | Glu | Cys | Leu | Trp | Ser |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Gly | Ser | Xaa | Ser | Phe | Tyr | Gly | Leu | Thr | Ala | Leu | Ala | Leu | Met | Leu | Gly |
| 225 | | | | | 230 | | | | 235 | | | | | 240 | |
| Thr | Ser | Leu | Ile | Tyr | Trp | Thr | Leu | Phe | Thr | Leu | Gly | Leu | Asp | Leu | Ser |
| | | | 245 | | | | | 250 | | | | | 255 | | |
| Trp | Ser | Ile | Ser | Leu | Ala | Phe | Lys | Trp | Cys | Glu | Arg | Pro | Glu | Trp | Ile |
| | | 260 | | | | | 265 | | | | | | 270 | | |
| His | Val | Asp | Ser | Arg | Pro | Phe | Ala | Ser | Leu | Ser | Arg | Asp | Ser | Gly | Ala |
| | 275 | | | | | 280 | | | | | | 285 | | | |
| Ala | Leu | Gly | Leu | Gly | Ile | Ala | Leu | His | Ser | Pro | Cys | Tyr | Ala | Gln | Val |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Arg | Arg | Ala | Gln | Leu | Gly | Asn | Gly | Gln | Lys | Ile | Ala | Cys | Leu | Val | Leu |

```

305          310          315          320
Ala Met Gly Leu Leu Gly Pro Leu Asp Trp Leu Gly His Pro Pro Gln
          325          330          335
Ile Ser Leu Phe Tyr Ile Phe Asn Phe Leu Lys Tyr Thr Leu Trp Pro
          340          345          350
Cys Leu Val Leu Ala Leu Val Pro Trp Ala Val His Met Phe Ser Ala
          355          360          365
Gln Glu Ala Pro Pro Ile His Ser Ser
          370          375

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<210> 4803

<211> 564

<212> DNA

<213> Homo sapiens

<400> 4803

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120
ccaaaacctg ctaatgcctg atttccatta cgtgctactc ctcaaattggc agcggcttct
180
gaatattaca gagatgggtgt gctgtttgct tttctctttt gttgtagcat aaaactgttc
240
attttagctt agtgacattt gtcaagaata gcaacctttt tgcttccaag ggacttgaag
300
gaagttaa at ttagatgctt tcctctcttc ttattttgtg gaggtatttc ctgttcagta
360
gcaaatacgt tatagaatat attagcattg ttatatatta aactaatgac taatcatttc
420
agctttattc atactgttgc attttatatt tcacagggag caatagaaaa agtgaaagaa
480
agtgacaaac tagttgcaac aagtaaaatc accctacaag acaaacagaa catggtgaag
540
agagtcagca tcatgtctta cgcg
564

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<210> 4804

<211> 53

<212> PRT

<213> Homo sapiens

<400> 4804

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Met Thr Asn His Phe Ser Phe Ile His Thr Val Ala Phe Tyr Ile Ser
1          5          10          15
Gln Gly Ala Ile Glu Lys Val Lys Glu Ser Asp Lys Leu Val Ala Thr
          20          25          30
Ser Lys Ile Thr Leu Gln Asp Lys Gln Asn Met Val Lys Arg Val Ser
          35          40          45
Ile Met Ser Tyr Ala
50

```

<210> 4805

<211> 1619

<212> DNA

<213> Homo sapiens

<400> 4805

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120
aaatccatgc agaaaaaact tcggagtaat tggagattc agagcttaaa agatgaaatc
180
acatctgaga agttaaatgg agtaaaactg tggattacag ctgggccaag ggaaaaattt
240
actgcagctg agtttgaaat cctgaagaaa tatcttgaca ctggtgggga tgtccttgtg
300
atgctagggg aagggtggaga atccagattt gacaccaata ttaacttttt actagaagaa
360
tatggaatca tggtaataa tgatgctgtg gttagaaatg tatatcacia atatttccat
420
cctaaagaag ctctagtctt cagtggagtc ttgaacaggg aaattagccg agctgcagg
480
aaggctgtgc tggcgatcat tgatgaggaa agcagtggaa acaatgccca ggctctcacc
540
tttgtgtatc cttttggtgc cacattgagt gtcattgaaac cagcagtggc ggttctgtct
600
acaggttctg tctgcttccc acttaacaga cccatttttg ctttctatca ctcaaagaac
660
caagggtgga agctggcagt gcttggttca tgcacatgt tcagtgatca atatttggac
720
aaagaagaaa acagcaaaat catggatggt gttgttttcc agtggctcac gacaggagac
780
atccacctaa accagattga tgctgaggac ccagagattt ctgactacat gatgctgccc
840
tacacagcca ccttatcaaa gcggaatcga gagtgtctcc aggagagtga tgagatccca
900
agggacttta ccacctctt cgacctgtcc atcttccagc tggataccac ctcttccac
960
agcgtcatcg aggtcacga gcagctaaat gtgaaacatg aaccactcca gctcatccag
1020
cctcagtttg agacgcgct gccaaacctt cagcctgcgg ttttctctcc cagtttccgg
1080
gagttaccac ctctctctct ggagctattt gatttagatg aaacgttctc ctctgagaag
1140
gcacggctgg ctgagattac caataagtgt actgaagaag acctggaatt ttatgtcagg
1200
aagtgtggtg atattcttgg agtaaccagt aaactaccaa aggaccaaca ggatgccaaa
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1320
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1380
ctttttctgc ctctgattc tctctttgta aactattttc aaattgtttt tcaactcctt
1440
atcaaaattg tttatacact ctttctcca tgagctctgg aaggatatg catcttctgt
1500

aatactcaga taggtataag atttttcaca aaatccttat gtaagataca ttccattttt
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 1619

<210> 4806

<211> 438

<212> PRT

<213> Homo sapiens

<400> 4806

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Lys | Glu | Leu | Arg | Ser | Thr | Ile | Leu | Phe | Asn | Ala | Tyr | Lys | Lys |
| 1 | | | 5 | | | | | | 10 | | | | | 15 | |
| Glu | Ile | Phe | Thr | Thr | Asn | Asn | Gly | Tyr | Lys | Ser | Met | Gln | Lys | Lys | Leu |
| | | | 20 | | | | 25 | | | | | 30 | | | |
| Arg | Ser | Asn | Trp | Lys | Ile | Gln | Ser | Leu | Lys | Asp | Glu | Ile | Thr | Ser | Glu |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Lys | Leu | Asn | Gly | Val | Lys | Leu | Trp | Ile | Thr | Ala | Gly | Pro | Arg | Glu | Lys |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Phe | Thr | Ala | Ala | Glu | Phe | Glu | Ile | Leu | Lys | Lys | Tyr | Leu | Asp | Thr | Gly |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Gly | Asp | Val | Leu | Val | Met | Leu | Gly | Glu | Gly | Gly | Glu | Ser | Arg | Phe | Asp |
| | | | 85 | | | | 90 | | | | | | 95 | | |
| Thr | Asn | Ile | Asn | Phe | Leu | Leu | Glu | Glu | Tyr | Gly | Ile | Met | Val | Asn | Asn |
| | | | 100 | | | | 105 | | | | | | 110 | | |
| Asp | Ala | Val | Val | Arg | Asn | Val | Tyr | His | Lys | Tyr | Phe | His | Pro | Lys | Glu |
| | 115 | | | | 120 | | | | | | | 125 | | | |
| Ala | Leu | Val | Ser | Ser | Gly | Val | Leu | Asn | Arg | Glu | Ile | Ser | Arg | Ala | Ala |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Gly | Lys | Ala | Val | Leu | Ala | Ile | Ile | Asp | Glu | Glu | Ser | Ser | Gly | Asn | Asn |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Ala | Gln | Ala | Leu | Thr | Phe | Val | Tyr | Pro | Phe | Gly | Ala | Thr | Leu | Ser | Val |
| | | | 165 | | | | 170 | | | | | | 175 | | |
| Met | Lys | Pro | Ala | Val | Ala | Val | Leu | Ser | Thr | Gly | Ser | Val | Cys | Phe | Pro |
| | | 180 | | | | | 185 | | | | | 190 | | | |
| Leu | Asn | Arg | Pro | Ile | Leu | Ala | Phe | Tyr | His | Ser | Lys | Asn | Gln | Gly | Gly |
| | 195 | | | | 200 | | | | | | | 205 | | | |
| Lys | Leu | Ala | Val | Leu | Gly | Ser | Cys | His | Met | Phe | Ser | Asp | Gln | Tyr | Leu |
| | 210 | | | | 215 | | | | | | 220 | | | | |
| Asp | Lys | Glu | Glu | Asn | Ser | Lys | Ile | Met | Asp | Val | Val | Val | Phe | Gln | Trp |
| 225 | | | | 230 | | | | | 235 | | | | | 240 | |
| Leu | Thr | Thr | Gly | Asp | Ile | His | Leu | Asn | Gln | Ile | Asp | Ala | Glu | Asp | Pro |
| | | | 245 | | | | | 250 | | | | | 255 | | |
| Glu | Ile | Ser | Asp | Tyr | Met | Met | Leu | Pro | Tyr | Thr | Ala | Thr | Leu | Ser | Lys |
| | 260 | | | | | | 265 | | | | | | 270 | | |
| Arg | Asn | Arg | Glu | Cys | Leu | Gln | Glu | Ser | Asp | Glu | Ile | Pro | Arg | Asp | Phe |
| | 275 | | | | | 280 | | | | | | 285 | | | |
| Thr | Thr | Leu | Phe | Asp | Leu | Ser | Ile | Phe | Gln | Leu | Asp | Thr | Thr | Ser | Phe |
| | 290 | | | | 295 | | | | | | 300 | | | | |
| His | Ser | Val | Ile | Glu | Ala | His | Glu | Gln | Leu | Asn | Val | Lys | His | Glu | Pro |
| 305 | | | | 310 | | | | | 315 | | | | | 320 | |
| Leu | Gln | Leu | Ile | Gln | Pro | Gln | Phe | Glu | Thr | Pro | Leu | Pro | Thr | Leu | Gln |
| | | | 325 | | | | | 330 | | | | | 335 | | |
| Pro | Ala | Val | Phe | Pro | Pro | Ser | Phe | Arg | Glu | Leu | Pro | Pro | Pro | Pro | Leu |

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<400> 4807
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180
tgagtcatgg cagctcccat gaatggccaa gtgtgtgtgg tgactggtgc ctccaggggt
240
attggccgtg gcattgcctt gcagctctgc aaagcaggcg ccacagttta catcactggc
300
cgccatctgg acacccttcg cgttgttgct caggaggcac aatccctcgg gggccaatgt
360
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420
gatcgggaa acgaagggcg tctagatgtg ctgggtcaaca atgcttatgc aggggtccag
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660
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720
cacgagctgc ggcgccatgg ggtcagctgt gtgtctctgt ggccggggat tgtgcagaca
780
gaactgctga aggagcatat ggcaaaggag gaggtcctgc aggatcctgt gttgaagcag
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900
ttggcaacag atcccaatat cctgagcctg agtggttaagg tgctgccatc ctgtgacctt
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1020

```


agctctgttc tctcacacgt gtcgggctg ggctggctgg cctcctacct gccctccttc
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 1177

<210> 4808

<211> 313

<212> PRT

<213> Homo sapiens

<400> 4808

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Pro | Met | Asn | Gly | Gln | Val | Cys | Val | Val | Thr | Gly | Ala | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Gly | Ile | Gly | Arg | Gly | Ile | Ala | Leu | Gln | Leu | Cys | Lys | Ala | Gly | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Thr | Val | Tyr | Ile | Thr | Gly | Arg | His | Leu | Asp | Thr | Leu | Arg | Val | Val | Ala |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Gln | Glu | Ala | Gln | Ser | Leu | Gly | Gly | Gln | Cys | Val | Pro | Val | Val | Cys | Asp |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Ser | Ser | Gln | Glu | Ser | Glu | Val | Arg | Ser | Leu | Phe | Glu | Gln | Val | Asp | Arg |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Glu | Gln | Gln | Gly | Arg | Leu | Asp | Val | Leu | Val | Asn | Asn | Ala | Tyr | Ala | Gly |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Val | Gln | Thr | Ile | Leu | Asn | Thr | Arg | Asn | Lys | Ala | Phe | Trp | Glu | Thr | Pro |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Ala | Ser | Met | Trp | Asp | Asp | Ile | Asn | Asn | Val | Gly | Leu | Arg | Gly | His | Tyr |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Phe | Cys | Ser | Val | Tyr | Gly | Ala | Arg | Leu | Met | Val | Pro | Ala | Gly | Gln | Gly |
| | 130 | | | | | 135 | | | | 140 | | | | | |
| Leu | Ile | Val | Val | Ile | Ser | Ser | Pro | Gly | Ser | Leu | Gln | Tyr | Met | Phe | Asn |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
| Val | Pro | Tyr | Gly | Val | Gly | Lys | Ala | Ala | Cys | Asp | Lys | Leu | Ala | Ala | Asp |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Cys | Ala | His | Glu | Leu | Arg | Arg | His | Gly | Val | Ser | Cys | Val | Ser | Leu | Trp |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Pro | Gly | Ile | Val | Gln | Thr | Glu | Leu | Leu | Lys | Glu | His | Met | Ala | Lys | Glu |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Glu | Val | Leu | Gln | Asp | Pro | Val | Leu | Lys | Gln | Phe | Lys | Ser | Ala | Phe | Ser |
| | 210 | | | | | 215 | | | | 220 | | | | | |
| Ser | Ala | Glu | Thr | Thr | Glu | Leu | Ser | Gly | Lys | Cys | Val | Val | Ala | Leu | Ala |
| 225 | | | | 230 | | | | | 235 | | | | | 240 | |
| Thr | Asp | Pro | Asn | Ile | Leu | Ser | Leu | Ser | Gly | Lys | Val | Leu | Pro | Ser | Cys |
| | | | 245 | | | | | 250 | | | | | 255 | | |
| Asp | Leu | Ala | Arg | Arg | Tyr | Gly | Leu | Arg | Asp | Val | Asp | Gly | Arg | Pro | Val |
| | | 260 | | | | | 265 | | | | | 270 | | | |
| Gln | Asp | Tyr | Leu | Ser | Leu | Ser | Ser | Val | Leu | Ser | His | Val | Ser | Gly | Leu |
| | 275 | | | | | 280 | | | | | 285 | | | | |
| Gly | Trp | Leu | Ala | Ser | Tyr | Leu | Pro | Ser | Phe | Leu | Arg | Val | Pro | Lys | Trp |
| | 290 | | | | | 295 | | | | 300 | | | | | |
| Ile | Ile | Ala | Leu | Tyr | Thr | Ser | Lys | Phe | | | | | | | |
| 305 | | | | | 310 | | | | | | | | | | |

<210> 4809
 <211> 999
 <212> DNA
 <213> Homo sapiens

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 180
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 300
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 420
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 480
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 780
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 900
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<210> 4810
 <211> 120
 <212> PRT
 <213> Homo sapiens

<400> 4810
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 20 25 30
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 35 40 45
 Leu Val Pro Ala His Ala Arg Gln Arg Ser Gln Pro Ser Leu Leu Leu

| | | | | |
|---|-----|----|-----|-----|
| 50 | | 55 | | 60 |
| Ser Ser Ser Pro Arg Lys Ser Arg Ser Trp Gln Gly Ser Gly Pro Met | | | | |
| 65 | | 70 | | 75 |
| Trp Pro Gly Pro Gly Tyr Phe Pro Asp Leu Thr Ser Pro Thr Ala Gln | | | | 80 |
| | 85 | | 90 | 95 |
| Pro Leu Gln Leu Leu Gly Ala Leu His Gly Cys Ser Phe Pro Pro Pro | | | | |
| | 100 | | 105 | 110 |
| Leu Pro Ser Gly Gln Pro Cys Pro | | | | |
| | 115 | | 120 | |

<210> 4811

<211> 3207

<212> DNA

<213> Homo sapiens

<400> 4811

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300
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420
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480
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1140

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 1980
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 2040
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 3060
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<210> 4812

<211> 306

<212> PRT

<213> Homo sapiens

<400> 4812

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Met | Ser | Leu | Asp | Lys | Ala | Glu | Ala | Ala | Leu | Val | Ala | Lys | Glu |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Leu | Arg | Thr | Leu | Leu | Glu | Glu | Ala | Val | Pro | Leu | Ser | Cys | Ala | Leu | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Val | Thr | Leu | Pro | Asn | Tyr | Asp | Asn | Val | Pro | Gly | Asn | Leu | Met | Leu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Ser | Ala | Leu | Gly | Leu | Arg | Leu | Gly | Asp | Arg | Val | Leu | Leu | Asp | Gly | Gln |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Lys | Thr | Gly | Thr | Leu | Arg | Phe | Cys | Gly | Thr | Thr | Glu | Phe | Ala | Ser | Gly |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Ser | Trp | Val | Gly | Val | Glu | Leu | Asp | Glu | Pro | Glu | Gly | Lys | Asn | Asp | Gly |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ser | Val | Gly | Gly | Val | Arg | Tyr | Phe | Ile | Cys | Pro | Pro | Lys | Gln | Gly | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Phe | Ala | Ser | Val | Ser | Lys | Ile | Ser | Lys | Ala | Val | Asp | Ala | Pro | Pro | Ser |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Ser | Val | Thr | Ser | Thr | Pro | Gly | Pro | Pro | Arg | Met | Asp | Phe | Ser | Arg | Val |
| | | | 130 | | | 135 | | | | | 140 | | | | |
| Thr | Gly | Lys | Gly | Arg | Arg | Glu | His | Lys | Gly | Lys | Lys | Lys | Thr | Pro | Ser |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
| Ser | Pro | Ser | Leu | Gly | Ser | Leu | Gln | Gln | Arg | Asp | Gly | Ala | Lys | Ala | Glu |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Val | Gly | Asp | Gln | Val | Leu | Val | Ala | Gly | Gln | Lys | Gln | Gly | Ile | Val | Arg |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Phe | Tyr | Gly | Lys | Thr | Asp | Phe | Ala | Pro | Gly | Tyr | Trp | Tyr | Gly | Ile | Glu |
| | | | 195 | | | | 200 | | | | | 205 | | | |
| Leu | Asp | Gln | Pro | Thr | Gly | Lys | His | Asp | Gly | Ser | Val | Phe | Gly | Val | Arg |
| | | | 210 | | | 215 | | | | | 220 | | | | |
| Tyr | Phe | Thr | Cys | Pro | Pro | Arg | His | Gly | Val | Phe | Ala | Pro | Ala | Ser | Arg |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Ile | Gln | Arg | Ile | Gly | Gly | Ser | Thr | Asp | Ser | Pro | Gly | Asp | Ser | Val | Gly |

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                245                250                255
Ala Lys Lys Val His Gln Val Thr Met Thr Gln Pro Lys Arg Thr Phe
                260                265                270
Thr Thr Val Arg Thr Pro Lys Asp Ile Ala Ser Glu Asn Ser Ile Ser
                275                280                285
Arg Leu Leu Phe Cys Cys Trp Phe Pro Trp Met Leu Arg Ala Glu Met
                290                295                300
Gln Ser
305

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<210> 4813

<211> 400

<212> DNA

<213> Homo sapiens

<400> 4813

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180
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240
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300
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<210> 4814

<211> 125

<212> PRT

<213> Homo sapiens

<400> 4814

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Ser Pro Trp Lys Phe Leu Arg Glu Cys Ser Asn Leu Cys Leu Thr Ile
 35          40          45
Met Met Val Val Ser Trp Thr Ala Gly Gly Lys Ala Lys Pro Cys Gly
 50          55          60
Arg Gly Gly Gly Leu Gln Arg Lys Ala Ala Ala Thr Thr Ala Ser Phe
 65          70          75          80
Pro Thr His Ser His Trp Gln Thr Gly Gly Gln Val Gln Ser Pro Lys
 85          90          95
Glu Thr Ala Ala Cys Ala Gly His Pro Pro Gly Thr Ala Phe Ser Leu
100          105          110
Ile Leu Pro Val Pro Pro Thr Cys Trp Val Ser Val Ala
115          120          125

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<210> 4815
 <211> 528
 <212> DNA
 <213> Homo sapiens

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 120
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 180
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 240
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 300
 acccatgcct cttacggacc cttctacctg gaatattcac tccttgacaga atttaccttg
 360
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 420
 tagtttggag taatattcat acggcatgga ctttaccag atggcgtatt taagtttaca
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<210> 4816
 <211> 105
 <212> PRT
 <213> Homo sapiens

<400> 4816
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 Arg Thr Ala Pro Lys Lys Gln Leu Pro Ser Ile Pro Lys Asn Ala Leu
 35 40 45
 Pro Ile Thr Lys Pro Thr Ser Pro Ala Pro Ala Ala Gln Ser Thr Asn
 50 55 60
 Gly Thr His Ala Ser Tyr Gly Pro Phe Tyr Leu Glu Tyr Ser Leu Leu
 65 70 75 80
 Ala Glu Phe Thr Leu Val Val Lys Gln Lys Leu Pro Gly Val Tyr Val
 85 90 95
 Gln Pro Ser Tyr Arg Ser Ala Leu Met
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<210> 4817
 <211> 1106
 <212> DNA
 <213> Homo sapiens

<400> 4817
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 240
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 300
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 420
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 480
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<210> 4818

<211> 135

<212> PRT

<213> Homo sapiens

<400> 4818

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| Met | Ala | Glu | Lys | Phe | Asp | His | Leu | Glu | Glu | His | Leu | Glu | Lys | Phe | Val |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Glu | Asn | Ile | Arg | Gln | Leu | Gly | Ile | Ile | Val | Ser | Asp | Phe | Gln | Pro | Ser |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Ser | Gln | Ala | Gly | Leu | Asn | Gln | Lys | Leu | Asn | Phe | Ile | Val | Thr | Gly | Leu |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Gln | Asp | Ile | Asp | Lys | Cys | Arg | Gln | Gln | Leu | His | Asp | Ile | Thr | Val | Pro |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Leu | Glu | Val | Phe | Glu | Tyr | Ile | Asp | Gln | Gly | Arg | Asn | Pro | Gln | Leu | Tyr |
| 65 | | | | 70 | | | | | 75 | | | | 80 | | |
| Thr | Lys | Glu | Cys | Leu | Glu | Arg | Ala | Leu | Ala | Lys | Asn | Glu | Gln | Val | Lys |


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<210> 4819
<211> 1655
<212> DNA
<213> Homo sapiens
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3996

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<210> 4820

<211> 551

<212> PRT

<213> Homo sapiens

<400> 4820

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| Arg | Pro | Arg | Pro | Gly | Leu | Arg | Gly | Gly | Arg | Ala | Pro | Cys | Glu | Val | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
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| Tyr | Leu | His | Leu | Pro | Asp | Leu | Gly | Arg | Cys | Ser | Leu | Val | Cys | Arg | Ala |
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| | | 50 | | | | 55 | | | | | 60 | | | | |
| Cys | Leu | Gly | Cys | Thr | Glu | Cys | Arg | His | Pro | Asn | Trp | Pro | Asn | Gln | Pro |
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| Ala | Ser | Lys | Thr | Trp | Thr | Lys | Asn | Ala | Leu | Asp | Leu | Glu | Ser | Ser | Ile |
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| | | 130 | | | | 135 | | | | | 140 | | | | |
| Ser | Leu | Tyr | Asp | Arg | Ile | Val | Leu | Phe | Pro | Gly | Val | Tyr | Glu | Glu | Gln |
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| Gly | Glu | Ile | Ile | Leu | Lys | Val | Pro | Val | Glu | Ile | Val | Gly | Gln | Gly | Lys |
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| Leu | Gly | Glu | Val | Ala | Leu | Leu | Ala | Ser | Ile | Asp | Gln | His | Cys | Ser | Thr |
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| Thr | Arg | Leu | Cys | Asn | Leu | Val | Phe | Thr | Pro | Ala | Trp | Phe | Ser | Pro | Ile |
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| Glu | Asn | Gly | His | Ile | Gln | Val | His | Gly | Pro | Gly | Thr | Cys | Gln | Val | Lys |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
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<212> DNA
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240

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<211> 195

<212> PRT

<213> Homo sapiens

<400> 4822

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| Ser | Val | Pro | Leu | Pro | Glu | Ser | Thr | Arg | Glu | Leu | Gly | Glu | Leu | Leu | Gly |
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| Val | Leu | Gly | Asp | Glu | Ile | Cys | Cys | Trp | Ser | Phe | Tyr | Gly | Gln | Gly | Arg |
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| Lys | Gln | Thr | Lys | Val | Arg | Gly | Ala | Pro | Glu | Pro | Met | Leu | Gly | Ala | Gly |
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<211> 1984

<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

<400> 4824

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| Lys | Ser | Thr | Gly | Ser | Lys | Lys | Ala | Asn | Arg | Phe | His | Pro | Tyr | Ser | Lys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Lys | Asn | Ser | Gly | Thr | Gly | Glu | Lys | Lys | Gly | Pro | Asn | Arg | Asn | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Val | Phe | Ile | Ser | Asn | Ile | Pro | Tyr | Asp | Met | Lys | Trp | Gln | Ala | Ile | Lys |
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| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Lys | Asp | Ala | Glu | Gly | Lys | Ser | Arg | Gly | Cys | Gly | Val | Val | Glu | Phe | Lys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asp | Glu | Glu | Phe | Val | Lys | Lys | Ala | Leu | Glu | Thr | Met | Asn | Lys | Tyr | Asp |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Ser | Gly | Arg | Pro | Leu | Asn | Ile | Lys | Glu | Asp | Pro | Asp | Gly | Glu | Asn |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Arg | Arg | Ala | Leu | Gln | Arg | Thr | Gly | Gly | Ser | Phe | Pro | Gly | Gly | His |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Val | Pro | Asp | Met | Gly | Ser | Gly | Leu | Met | Asn | Leu | Pro | Pro | Ser | Ile | Leu |
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| Asn | Asn | Pro | Asn | Ile | Pro | Pro | Glu | Val | Ile | Ser | Asn | Leu | Gln | Ala | Gly |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Arg | Leu | Gly | Ser | Thr | Ile | Phe | Val | Ala | Asn | Leu | Asp | Phe | Lys | Val | Gly |
| | | 180 | | | | | 185 | | | | | 190 | | | |
| Trp | Lys | Lys | Leu | Lys | Glu | Val | Phe | Ser | Ile | Ala | Gly | Thr | Val | Lys | Arg |
| | 195 | | | | | 200 | | | | | 205 | | | | |
| Ala | Asp | Ile | Lys | Glu | Asp | Lys | Asp | Gly | Lys | Ser | Arg | Gly | Met | Gly | Thr |
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| Val | Thr | Phe | Glu | Gln | Ala | Ile | Glu | Ala | Val | Gln | Ala | Ile | Ser | Met | Phe |
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| Asn | Gly | Gln | Phe | Leu | Phe | Asp | Arg | Pro | Met | His | Val | Lys | Met | Asp | Asp |
| | | | 245 | | | | | 250 | | | | | 255 | | |
| Lys | Ser | Val | Pro | His | Glu | Glu | Tyr | Arg | Ser | Pro | Asp | Gly | Lys | Thr | Pro |
| | | 260 | | | | | 265 | | | | | 270 | | | |
| Gln | Leu | Pro | Arg | Gly | Leu | Gly | Gly | Ile | Gly | Met | Gly | Leu | Gly | Pro | Gly |

| | | |
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| 275 | 280 | 285 |
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| Asn Leu Gly Pro Gly Gly Met Gly Met Asp Gly Pro Gly Phe Gly Gly | | |
| 305 | 310 | 315 |
| Met Asn Arg Ile Gly Gly Gly Ile Gly Phe Gly Gly Leu Glu Ala Met | | |
| 325 | 330 | 335 |
| Asn Ser Met Gly Gly Phe Gly Gly Val Gly Arg Met Gly Glu Leu Tyr | | |
| 340 | 345 | 350 |
| Arg Gly Ala Met Thr Ser Ser Met Glu Arg Asp Phe Gly Arg Gly Asp | | |
| 355 | 360 | 365 |
| Ile Gly Ile Asn Arg Ala Phe Gly Asp Ser Phe Gly Arg Leu Gly Ser | | |
| 370 | 375 | 380 |
| Ala Met Ile Gly Gly Ile Thr Gly Arg Ile Gly Ser Ser Asn Met Gly | | |
| 385 | 390 | 395 |
| Pro Val Gly Ser Gly Ile Ser Gly Gly Met Gly Ser Met Asn Ser Val | | |
| 405 | 410 | 415 |
| Thr Gly Gly Met Gly Met Gly Leu Asp Arg Met Ser Ser Ser Phe Asp | | |
| 420 | 425 | 430 |
| Arg Met Gly Pro Gly Ile Gly Ala Ile Leu Glu Arg Ser Ile Asp Met | | |
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| Asp Arg Gly Phe Leu Ser Gly Pro Met Gly Ser Gly Met Arg Glu Arg | | |
| 450 | 455 | 460 |
| Ile Gly Ser Lys Gly Asn Gln Ile Phe Val Arg Asn Leu Pro Phe Asp | | |
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| Leu Thr Trp Gln Lys Leu Lys Glu Lys Phe Ser Gln Cys Gly His Val | | |
| 485 | 490 | 495 |
| Met Phe Ala Glu Ile Lys Met Glu Asn Gly Lys Ser Lys Gly Cys Gly | | |
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| Thr Val Arg Phe Asp Ser Pro Glu Ser Ala Glu Lys Ala Cys Arg Ile | | |
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<212> DNA

<213> Homo sapiens

<400> 4825

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<211> 105

<212> PRT

<213> Homo sapiens

<400> 4826

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| Lys | Glu | Tyr | Gln | Glu | Thr | Ile | Asp | Gln | Ile | Glu | Leu | Glu | Leu | Ala | Thr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Lys | Asn | Asp | Met | Asn | Arg | His | Leu | His | Glu | Tyr | Met | Glu | Met | Cys |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ser | Met | Lys | Arg | Gly | Leu | Asp | Val | Gln | Met | Glu | Thr | Cys | Arg | Arg | Leu |
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| Ile | Thr | Gln | Ser | Gly | Asp | Arg | Lys | Ser | Pro | Ala | Phe | Thr | Ala | Val | Pro |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Leu | Ser | Asp | Pro | Pro | Pro | Pro | Pro | Ser | Glu | Ala | Glu | Asp | Ser | Asp | Arg |
| | | | 85 | | | | | 90 | | | | | | 95 | |
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<211> 6277

<212> DNA

<213> Homo sapiens

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 Asp Gln Asp Lys Asp Gln Cys Ile Leu Ile Thr Gly Glu Ser Gly Ala
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 Gly Lys Thr Glu Ala Ser Lys Leu Val Met Ser Tyr Val Ala Ala Val
 115 120 125
 Cys Gly Lys Gly Ala Glu Val Asn Gln Val Lys Glu Gln Leu Leu Gln
 130 135 140
 Ser Asn Pro Val Leu Glu Ala Phe Gly Asn Ala Lys Thr Val Arg Asn
 145 150 155 160
 Asp Asn Ser Ser Arg Phe Gly Lys Tyr Met Asp Ile Glu Phe Asp Phe
 165 170 175
 Lys Gly Asp Pro Leu Gly Gly Val Ile Ser Asn Tyr Leu Leu Glu Lys
 180 185 190
 Ser Arg Val Val Lys Gln Pro Arg Gly Glu Arg Asn Phe His Val Phe
 195 200 205
 Tyr Gln Leu Leu Ser Gly Ala Ser Glu Glu Leu Leu Asn Lys Leu Lys
 210 215 220
 Leu Glu Arg Asp Phe Ser Arg Tyr Asn Tyr Leu Ser Leu Asp Ser Ala
 225 230 235 240
 Lys Val Asn Gly Val Asp Asp Ala Ala Asn Phe Arg Thr Val Arg Asn
 245 250 255
 Ala Met Gln Ile Val Gly Phe Met Asp His Glu Ala Glu Ser Val Leu
 260 265 270
 Ala Val Val Ala Ala Val Leu Lys Leu Gly Asn Ile Glu Phe Lys Pro
 275 280 285
 Glu Ser Arg Val Asn Gly Leu Asp Glu Ser Lys Ile Lys Asp Lys Asn
 290 295 300
 Glu Leu Lys Glu Ile Cys Glu Leu Thr Gly Ile Asp Gln Ser Val Leu
 305 310 315 320
 Glu Arg Ala Phe Ser Phe Arg Thr Val Glu Ala Lys Gln Glu Lys Val
 325 330 335
 Ser Thr Thr Leu Asn Val Ala Gln Ala Tyr Tyr Ala Arg Asp Ala Leu
 340 345 350
 Ala Lys Asn Leu Tyr Ser Arg Leu Phe Ser Trp Leu Val Asn Arg Ile
 355 360 365
 Asn Glu Ser Ile Lys Ala Gln Thr Lys Val Arg Lys Lys Val Met Gly

| | | | | |
|---|-----|-----|-----|-----|
| 370 | | 375 | | 380 |
| Val Leu Asp Ile Tyr Gly Phe Glu Ile Phe Glu Asp Asn Ser Phe Glu | | | | |
| 385 | | 390 | | 395 |
| Gln Phe Ile Ile Asn Tyr Cys Asn Glu Lys Leu Gln Gln Ile Phe Ile | | | | 400 |
| | 405 | | 410 | 415 |
| Glu Leu Thr Leu Lys Glu Glu Gln Glu Tyr Ile Arg Glu Asp Ile | | | | |
| | 420 | | 425 | 430 |
| Glu Trp Thr His Ile Asp Tyr Phe Asn Asn Ala Ile Ile Cys Asp Leu | | | | |
| | 435 | | 440 | 445 |
| Ile Glu Asn Asn Thr Asn Gly Ile Leu Ala Met Leu Asp Glu Glu Cys | | | | |
| | 450 | | 455 | 460 |
| Leu Arg Pro Gly Thr Val Thr Asp Glu Thr Phe Leu Glu Lys Leu Asn | | | | |
| 465 | | 470 | | 475 |
| Gln Val Cys Ala Thr His Gln His Phe Glu Ser Arg Met Ser Lys Cys | | | | 480 |
| | 485 | | 490 | 495 |
| Ser Arg Phe Leu Asn Asp Thr Ser Leu Pro His Ser Cys Phe Arg Ile | | | | |
| | 500 | | 505 | 510 |

<210> 4831
 <211> 578
 <212> DNA
 <213> Homo sapiens

<400> 4831
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 120
 ggcgccgagc acggggacga gccgcgccac gggggcctca ctctgcgcct gggcctccac
 180
 cagcagagcg tgctcggcgg ccaggaccag ctgcgcgtcc gtgtgacgga gctggaggac
 240
 gaggtgcgca acctgcgcaa gatcaatcgg gacctgttcg acttctccac gcgcttcac
 300
 acggcgccgg ccaagtgagg cccggagacc ccggcccagag gcgcccaggc ctgagcccca
 360
 tgctctccag caaccagggc ccgcgggtgt ggccccacc agcccaggcc tggactctcc
 420
 tcagttctgt gtcgtgttcg gggttttctt ctgtgactgg gccgtcttgg tgtctcgtgg
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 540
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaa
 578

<210> 4832
 <211> 105
 <212> PRT
 <213> Homo sapiens

<400> 4832
 Arg Thr Val Ala Leu Lys Gly Pro Val Thr Asn Ala Ala Ile Leu Leu
 1 5 10 15
 Ala Pro Val Ser Met Leu Ser Ser Asp Phe Arg Pro Ser Leu Pro Leu

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 20 | | | | | 25 | | | | | 30 | | | | | |
| Pro | His | Phe | Asn | Lys | His | Leu | Leu | Gly | Ala | Glu | His | Gly | Asp | Glu | Pro |
| 35 | | | 40 | | | 45 | | | | | | | | | |
| Arg | His | Gly | Gly | Leu | Thr | Leu | Arg | Leu | Gly | Leu | His | Gln | Gln | Ser | Val |
| 50 | | | 55 | | | 60 | | | | | | | | | |
| Leu | Gly | Gly | Gln | Asp | Gln | Leu | Arg | Val | Arg | Val | Thr | Glu | Leu | Glu | Asp |
| 65 | | | 70 | | | 75 | | | 80 | | | | | | |
| Glu | Val | Arg | Asn | Leu | Arg | Lys | Ile | Asn | Arg | Asp | Leu | Phe | Asp | Phe | Ser |
| 85 | | | 90 | | | 95 | | | | | | | | | |
| Thr | Arg | Phe | Ile | Thr | Arg | Pro | Ala | Lys | | | | | | | |
| 100 | | | 105 | | | | | | | | | | | | |

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<210> 4833
<211> 872
<212> DNA
<213> Homo sapiens
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<400> 4833
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120
ctcaacaact gagatgaacg tcgactcgct tgcaggcaag ttgtcactca gcagcgatct
180
gaactatatc ctgggttcca gaaaaggcag aggttcttac cgaaagcagg ggaggaagcc
240
gcagcccaag gaggtcgta cttgccggga aggtggctcg ggccaggctg cactcaaac
300
ccgtgctctg tccacactgc tacggggcca gagccaagga agcttccact tcttccccca
360
gacagcccca acagcggcta cccaaggag ccagcagcct tgtgtcctgg gatcccccag
420
ccctgcagaa tgaccacca ggatctgagc atcacagcca aactcatcaa tggagggtga
480
gcagggctcg tgggggtgac ctgcgtgttc cccatcgact tggccaagac tcgcttgag
540
aaccagcatg ggaaagccat gtacaaagga atgatcgact gcctgatgaa gacggctcgg
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gcggagggct tcttcggcat gtaccgaggg gctgcagtga acctcactct ggtcactcca
660
gagaaggcca tcaagctggc ggccaacgac tttttccggc ggctgctcat ggaagatggg
720
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780
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840
cgtccatcat cagggtcctg cctcagcacc ct
872

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<210> 4834
<211> 147
<212> PRT
<213> Homo sapiens
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<400> 4834

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Met Thr His Gln Asp Leu Ser Ile Thr Ala Lys Leu Ile Asn Gly Gly
 1           5           10           15
Val Ala Gly Leu Val Gly Val Thr Cys Val Phe Pro Ile Asp Leu Ala
      20           25           30
Lys Thr Arg Leu Gln Asn Gln His Gly Lys Ala Met Tyr Lys Gly Met
      35           40           45
Ile Asp Cys Leu Met Lys Thr Ala Arg Ala Glu Gly Phe Phe Gly Met
      50           55           60
Tyr Arg Gly Ala Ala Val Asn Leu Thr Leu Val Thr Pro Glu Lys Ala
      65           70           75           80
Ile Lys Leu Ala Ala Asn Asp Phe Phe Arg Arg Leu Leu Met Glu Asp
      85           90           95
Gly Met Gln Arg Asn Leu Lys Met Glu Met Leu Ala Gly Cys Gly Ala
      100          105          110
Gly Met Cys Gln Val Val Val Thr Cys Pro Met Glu Met Leu Lys Ile
      115          120          125
Gln Leu Gln Ala Cys Trp Thr Pro Gly Arg Pro Ser Ser Gly Leu Gly
      130          135          140
Leu Ser Thr
145

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<210> 4835

<211> 1846

<212> DNA

<213> Homo sapiens

<400> 4835

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120
cagtgggaga tccagaatac cagccatctg gccgttgatg gggaccgggc agctgcttgg
180
cccgtgggta ttccagcacc atcccccccc gctctcccgt ttgaggtgct gcgctgggac
240
tacttcacgg agcagcacgc tttctcctgc gccgatggct cccccgctg cccactgcgt
300
ggggctgacc gggctgatgt ggccgatgtt ctggggacag ctctagagga gctgaaccgc
360
cgctaccacc cggccttgcg gctccagaag cagcagctgg tgaatggcta ccgacgcttt
420
gatccggccc ggggtatgga atacacgctg gacttgcagc tggaggcact gacccccag
480
ggaggccgcc ggcccctcac tcgccgagtg cagctgctcc ggccgctgag ccgctggag
540
atcttgcttg tgccctatgt cactgaggcc tcacgtctca ctgtgctgct gcctctagct
600
gcggtgagc gtgacctggc ccctggcttc ttggaggcct ttgccactgc agcactggag
660
cctggtgatg ctgcggcagc cctgaccctg ctgctactgt atgagccgcg ccaggccccag
720
cgcggtggcc atgcagatgt cttcgcaact gtcaaggccc acgtggcaga gctggagcgg
780

```

cgtttccccg gtgccccgggt gccatggctc agtgtgcaga cagccgcacc ctcaccactg
 840
 cgcctcatgg atctactctc caagaagcac ccgctggaca cactgttctt gctggccggg
 900
 ccagacacgg tgctcacgcc tgacttcttg aaccgctgcc gcatgcatgc catctccggc
 960
 tggcaggcct tctttcccat gcatttccaa gccttccacc cagctgtggc cccaccacaa
 1020
 gggcctgggc cccagagct ggggcccgtga cactggccgc tttgatcgcc aggcagccag
 1080
 cgaggcctgc ttctacaact ccgactacgt ggcagcccgt gggcgccctgg ggcagctca
 1140
 gaacaagaag aggagctgct ggagagcctg gatgtgtacg agctgttctt ccacttctcc
 1200
 agtctgcatg tgctgcgggc ggtggagcgg cgctgctgca gccgctaccg ggcccagacg
 1260
 tgcagcgcga ggctcagtga ggacctgtac caccgctgcc tccagagcgt gcttgagggc
 1320
 ctccggctccc gaaccagct ggccatgcta ctctttgaac aggagcaggg caacagcacc
 1380
 tgacccaccc ctgtccccgt gggcccgtgg cattggccac accccacccc acttctcccc
 1440
 caaaaccaga gccacctgcc agcctcgctg ggcagggctg gccgtagcca gaccccaagc
 1500
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 1560
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 1620
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 1680
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 1740
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 1800
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 1846

<210> 4836

<211> 349

<212> PRT

<213> Homo sapiens

<400> 4836

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | His | Phe | Arg | Ser | Ala | Leu | Thr | Ala | His | Pro | Val | Arg | Asp | Pro | Val |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| His | Met | Tyr | Gln | Leu | His | Lys | Ala | Phe | Ala | Arg | Ala | Glu | Leu | Glu | Arg |
| | | | 20 | | | | 25 | | | | | 30 | | | |
| Thr | Tyr | Gln | Glu | Ile | Gln | Glu | Leu | Gln | Trp | Glu | Ile | Gln | Asn | Thr | Ser |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| His | Leu | Ala | Val | Asp | Gly | Asp | Arg | Ala | Ala | Ala | Trp | Pro | Val | Gly | Ile |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Pro | Ala | Pro | Ser | Arg | Pro | Ala | Ser | Arg | Phe | Glu | Val | Leu | Arg | Trp | Asp |
| 65 | | | | 70 | | | | 75 | | | | 80 | | | |
| Tyr | Phe | Thr | Glu | Gln | His | Ala | Phe | Ser | Cys | Ala | Asp | Gly | Ser | Pro | Arg |

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<210> 4837
<211> 906
<212> DNA
<213> Homo sapiens
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<400> 4837
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120
actgtaaatt atgatagtgt caattctgac aactctaagc caaagatatt taaaagtcaa
180
atagagaaca taaatttgac caatggcagc aatgggagga acacagagtc cccagctgcc
240
attcaccctt gtggaaatcc tacagtgatt gaggacgctt tggacaagat taaaagcaat
300
gaccctgaca ccacagaagt caatttgaac aacattgaga acatcacaac acagaccctt
360
accgcgtttg ctgaagccct caaggacaac actgtggtga agacgttcag tctggccaac
420
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acgcatgccg acgacagtgc agccatggcc attgcagaga tgctcaaagt caatgagcac
 480
 atcaccaacg taaacgtcga gtccaacttc ataacgggaa aggggatcct ggccatcatg
 540
 agagctctcc agcacaacac ggtgctcacg gagctgcgtt tccataacca gaggcacatc
 600
 atgggcagcc aggtggaaat ggagattgtc aagctgctga aggagaacac gacgctgctg
 660
 aggctgggat accattttga actcccagga ccaagaatga gcatgacgag cattttgaca
 720
 agaaatatgg ataaacagag gcaaaaacgt ttgcaggagc aaaaacagca ggagggatac
 780
 gatggaggac ccaatcttag gaccaaagtc tggcaaagag gaacacctag cccttccct
 840
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 900
 acgcgt
 906

<210> 4838

<211> 302

<212> PRT

<213> Homo sapiens

<400> 4838

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Gly | Glu | Glu | Glu | Val | Val | Ala | Ala | Phe | Gly | Lys | Lys | Glu | Ser |
| 1 | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Glu | Glu | Glu | Glu | Glu | Asp | Ser | Asp | Glu | Gly | Glu | Arg | Thr | Ile |
| | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Thr | Ala | Lys | Gly | Ile | Asn | Gly | Thr | Val | Asn | Tyr | Asp | Ser | Val |
| | | 35 | | | | 40 | | | | | 45 | | | |
| Ser | Asp | Asn | Ser | Lys | Pro | Lys | Ile | Phe | Lys | Ser | Gln | Ile | Glu | Asn |
| | 50 | | | | | 55 | | | | | 60 | | | Ile |
| Asn | Leu | Thr | Asn | Gly | Ser | Asn | Gly | Arg | Asn | Thr | Glu | Ser | Pro | Ala |
| 65 | | | | | 70 | | | | 75 | | | | | 80 |
| Ile | His | Pro | Cys | Gly | Asn | Pro | Thr | Val | Ile | Glu | Asp | Ala | Leu | Asp |
| | | | 85 | | | | | 90 | | | | | 95 | |
| Ile | Lys | Ser | Asn | Asp | Pro | Asp | Thr | Thr | Glu | Val | Asn | Leu | Asn | Asn |
| | | | 100 | | | | | 105 | | | | | 110 | Ile |
| Glu | Asn | Ile | Thr | Thr | Gln | Thr | Leu | Thr | Arg | Phe | Ala | Glu | Ala | Leu |
| | | 115 | | | | 120 | | | | | | 125 | | Lys |
| Asp | Asn | Thr | Val | Val | Lys | Thr | Phe | Ser | Leu | Ala | Asn | Thr | His | Ala |
| | 130 | | | | | 135 | | | | | 140 | | | Asp |
| Asp | Ser | Ala | Ala | Met | Ala | Ile | Ala | Glu | Met | Leu | Lys | Val | Asn | Glu |
| 145 | | | | 150 | | | | | 155 | | | | | 160 |
| Ile | Thr | Asn | Val | Asn | Val | Glu | Ser | Asn | Phe | Ile | Thr | Gly | Lys | Gly |
| | | | 165 | | | | | 170 | | | | | 175 | Ile |
| Leu | Ala | Ile | Met | Arg | Ala | Leu | Gln | His | Asn | Thr | Val | Leu | Thr | Glu |
| | | 180 | | | | | | 185 | | | | | 190 | Leu |
| Arg | Phe | His | Asn | Gln | Arg | His | Ile | Met | Gly | Ser | Gln | Val | Glu | Met |
| | | 195 | | | | 200 | | | | | | 205 | | Glu |
| Ile | Val | Lys | Leu | Leu | Lys | Glu | Asn | Thr | Thr | Leu | Leu | Arg | Leu | Gly |
| | 210 | | | | | 215 | | | | | 220 | | | Tyr |
| His | Phe | Glu | Leu | Pro | Gly | Pro | Arg | Met | Ser | Met | Thr | Ser | Ile | Leu |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 | | 230 | | 235 | | 240 | | | | | | | | | |
| Arg | Asn | Met | Asp | Lys | Gln | Arg | Gln | Lys | Arg | Leu | Gln | Glu | Gln | Lys | Gln |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Gln | Glu | Gly | Tyr | Asp | Gly | Gly | Pro | Asn | Leu | Arg | Thr | Lys | Val | Trp | Gln |
| | | 260 | | | | | 265 | | | | | | 270 | | |
| Arg | Gly | Thr | Pro | Ser | Pro | Ser | Pro | Tyr | Val | Ser | Pro | Arg | His | Ser | Pro |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Trp | Ser | Ser | Pro | Lys | Leu | Pro | Tyr | Gly | Glu | Thr | Thr | Thr | Arg | | |
| | 290 | | | | | 295 | | | | | 300 | | | | |

<210> 4839

<211> 1313

<212> DNA

<213> Homo sapiens

<400> 4839

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120
tccccggggc cgcccgcccc tgatggccac tcacgtata gcgcccactc tgtcctgggc
180
catcccgccg cagcagtgtg gccccagcc cgggcgccctg aatgctctcc ctccggatcg
240
ctgctcgggt cccactttg gcgaccgntg ccccagagtc ctgcttcccc ggggcctgct
300
ctgtatcagg cgctgcgcc ttcaagggtg cccggcccg ctcacctccc caagagccga
360
gtttgcgtc ctcccggaat cgtttgagag aaggacaaac ttttggcagg atggaaatct
420
agatgagcct gtccggagca gaacaccct gattagccag gccaccgcc atccacatct
480
gctcggcaaa gaaggaaggc agcttggtcc agaccttggt gagcagctgc agactgcctg
540
cctagaacag ctccttact ccagcctggc aggggaaggaa ggaacctgac ttgcttcgca
600
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660
agaagcagct tccgtctttg ggttcttgct gcctcggcct ctgctctgtt cagtttgctg
720
ttgtgttttt ctccccatg ttgggggtgtt ggggtacagg gaaataaaat gctttctccc
780
aggccccctaa tcttcccca tgctccatc agcctcaaag ctgctgacag tcatgaactg
840
caccttcag ccctgccat aagctactca aagcaaattc aaattctctt ctggccaggg
900
ggaaggcag atgctccctc ctctctcaag cctccctggc tcattgatcc attttgaggg
960
catttggggg tcaaagtga gaccagattg cttcagtttg tataaaatta gcatttctta
1020
tcacaccaag gccacacctg ttctctggcc tcacaaacca gtgaggatgt aaaggtttgt
1080
tgaggtggag gaacagaagt gaaatgagca atctgctcca tttagaagtc agtcgcttcg
1140

```

gctgttcatt ccactaatat ttatctagta cctattctgt gccagcatt gtctctacct
 1200
 cagtttgcca caaatatgaa aaaaaaaaaa ttcttggaac tgtgaggctt caatgtgttg
 1260
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 1313

<210> 4840

<211> 66

<212> PRT

<213> Homo sapiens

<400> 4840

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Leu | Arg | Ala | Pro | Thr | Arg | Gly | Arg | Gly | Asn | Val | Val | Gly | Trp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Thr | Pro | Ala | Arg | Gln | Lys | Leu | Glu | Lys | Ala | Arg | Asp | Val | Ala | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Pro | Gly | Thr | Ser | Pro | Ser | Ser | Ser | Pro | Gly | Pro | Pro | Gly | Pro | Asp |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Gly | His | Ser | Arg | Tyr | Ser | Ala | His | Ser | Val | Leu | Gly | His | Pro | Ala | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ala | Val | | | | | | | | | | | | | | |
| 65 | | | | | | | | | | | | | | | |

<210> 4841

<211> 558

<212> DNA

<213> Homo sapiens

<400> 4841

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 120
 ctggacgtcc attccatgca ccagctggag aagaccacca atgctgagat gagggagggtg
 180
 ctggctgagc tgctggagct aggggtgtcct gagcagagcc tgagggacgc catcaccctg
 240
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 300
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 360
 ctccgagcct acatcaagac ccaagtgaac aaagagctgg agcagctcca ggggctgggtg
 420
 gaggagcgt caaggccagc gaggaaaggc tcagcagcaa gttgactgca ctagagcggc
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 558

<210> 4842

<211> 118

<212> PRT

<213> Homo sapiens

<400> 4842

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Met Trp Lys Tyr Leu Asp Val His Ser Met His Gln Leu Glu Lys Thr
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Thr Asn Ala Glu Met Arg Glu Val Leu Ala Glu Leu Leu Glu Leu Gly
      20           25           30
Cys Pro Glu Gln Ser Leu Arg Asp Ala Ile Thr Leu Asp Leu Phe Cys
      35           40           45
His Ala Leu Ile Phe Cys Arg Gln Gln Gly Phe Ser Leu Glu Gln Thr
      50           55           60
Ser Ala Ala Cys Ala Leu Leu Gln Asp Leu His Lys Ala Cys Ile Gly
65           70           75           80
His Ile His Val Leu Arg Ala Tyr Ile Lys Thr Gln Val Asn Lys Glu
      85           90           95
Leu Glu Gln Leu Gln Gly Leu Val Glu Glu Arg Ser Arg Pro Ala Arg
      100          105          110
Lys Gly Ser Ala Ala Ser
      115

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<210> 4843

<211> 6403

<212> DNA

<213> Homo sapiens

<400> 4843

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120
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| | | 35 | | | | 40 | | | | | 45 | | | | |
| Phe | Glu | His | Asn | Gly | Glu | Arg | Arg | Ile | Ile | Ala | Phe | Ser | Arg | Pro | Val |
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| Lys | Tyr | Glu | Asp | Val | Glu | His | Lys | Val | Thr | Thr | Val | Phe | Gly | Gln | Pro |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Leu | Asp | Leu | His | Tyr | Met | Asn | Asn | Glu | Leu | Ser | Ile | Leu | Leu | Lys | Asn |
| | | | 85 | | | | 90 | | | | | | | 95 | |
| Gln | Asp | Asp | Leu | Asp | Lys | Ala | Ile | Asp | Ile | Leu | Asp | Arg | Ser | Ser | Ser |

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| | | 210 | | | | 215 | | | | | 220 | | | | | | |
| Ser | Gly | Ser | Cys | Gln | Ser | Leu | Asp | Arg | Ser | Ala | Asp | Ser | Pro | Ser | Phe | | |
| 225 | | | | 230 | | | | | | 235 | | | | | 240 | | |
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| Ser | Asp | Gly | Arg | Arg | Thr | Phe | Pro | Arg | Ile | Arg | Arg | His | Gln | Gly | Asn | | |
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| Leu | Phe | Thr | Leu | Val | Pro | Ser | Ser | Arg | Ser | Leu | Ser | Thr | Asn | Gly | Glu | | |
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| Lys | Asn | Leu | Gln | His | Glu | Arg | Ile | Val | Gln | Tyr | Tyr | Gly | Cys | Leu | Arg | | |
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| Leu Thr Glu Lys Pro Pro Trp Ala Glu Tyr Glu Ala Met Ala Ala Ile | | 560 |
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| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Glu | Arg | Gly | Ser | Ala | His | Leu | Val | Ala | Leu | Lys | Cys | Ile | Pro | Lys |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Lys | Ala | Leu | Arg | Gly | Lys | Glu | Ala | Leu | Val | Glu | Asn | Glu | Ile | Ala | Val |
| | | 50 | | | | 55 | | | | 60 | | | | | |
| Leu | Arg | Arg | Ile | Ser | His | Pro | Asn | Ile | Val | Ala | Leu | Glu | Asp | Val | His |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
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| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Glu | Arg | Leu | Arg | Glu | His | Asp | Ala | Ala | Ala | Glu | Ser | Leu | Val | Asp | Gln |
| | | | 20 | | | | 25 | | | | | | 30 | | |
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| | | | 35 | | | | 40 | | | | | 45 | | | |
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| | | | 50 | | | 55 | | | | | 60 | | | | |
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| Asn | Lys | Glu | Leu | Arg | Glu | Leu | Leu | Ser | Ile | Ser | Ser | Glu | Ser | Leu | Gln |
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<212> DNA

<213> Homo sapiens

<400> 4853

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<212> PRT

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<400> 4854

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<213> Homo sapiens

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| 1 | | | 5 | | | | | | 10 | | | | | 15 | |
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| | | | 20 | | | | | 25 | | | | | 30 | | |
| Thr | Thr | Ala | Gly | Ser | Ala | Phe | Ser | Phe | Ser | Ala | Pro | Thr | Asn | Thr | Gly |
| | | | 35 | | | | 40 | | | | | | 45 | | |
| Thr | Thr | Gly | Leu | Phe | Gly | Gly | Thr | Gln | Asn | Lys | Gly | Phe | Gly | Phe | Gly |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Thr | Gly | Phe | Gly | Thr | Thr | Thr | Gly | Thr | Ser | Thr | Gly | Leu | Gly | Thr | Gly |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Leu | Gly | Thr | Gly | Leu | Gly | Phe | Gly | Gly | Phe | Asn | Thr | Gln | Gln | Gln | Gln |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Gln | Gln | Thr | Thr | Leu | Gly | Gly | Leu | Phe | Ser | Gln | Pro | Thr | Gln | Ala | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Thr | Gln | Ser | Asn | Gln | Leu | Ile | Asn | Thr | Ala | Ser | Ala | Leu | Ser | Ala | Pro |
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| Thr | Leu | Leu | Gly | Asp | Glu | Arg | Asp | Ala | Ile | Leu | Ala | Lys | Trp | Asn | Gln |
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| | | | 195 | | | | 200 | | | | | | 205 | | |
| Gln | Leu | Val | Glu | Ser | Leu | His | Lys | Val | Leu | Gly | Gly | Asn | Gln | Thr | Leu |
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<211> 2887

<212> DNA

<213> Homo sapiens

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<400> 4858

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Gln Ala Lys Glu Lys Glu Ile Glu Glu Leu Lys Ser Glu Arg Asp Thr
      50           55           60
Leu Leu Ala Arg Ile Glu Arg Met Glu Arg Arg Met Gln Leu Val Lys
      65           70           75           80
Lys Asp Asn Glu Lys Glu Arg His Lys Leu Phe Gln Gly Tyr Glu Thr
      85           90           95
Glu Glu Arg Glu Glu Thr Glu Leu Ser Glu Lys Ile Lys Leu Glu Cys
      100          105          110
Gln Pro Glu Leu Ser Glu Thr Ser Gln Thr Leu Pro Pro Lys Pro Phe
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Ser Cys Gly Arg Ser Gly Lys Gly His Lys Arg Lys Ser Pro Phe Gly
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Ser Thr Glu Arg Lys Thr Pro Val Lys Lys Leu Ala Pro Glu Phe Ser
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Lys Val Lys Thr Lys Thr Pro Lys His Ser Pro Ile Lys Glu Glu Pro
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Cys Gly Ser Leu Ser Glu Thr Val Cys Lys Arg Glu Leu Arg Ser Gln
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Glu Thr Pro Glu Lys Pro Arg Ser Ser Val Asp Thr Pro Pro Arg Leu
      195          200          205
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<213> Homo sapiens

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| Trp | Thr | Leu | Asp | Leu | Glu | Pro | Arg | Gly | Pro | Val | His | Ile | His | Pro | Thr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Val | Ser | Gly | Gly | Leu | Pro | Arg | Cys | Leu | Cys | Trp | Val | Ala | Val | Val |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Val | Pro | Arg | Gly | Met | Glu | Cys | Pro | Gly | Leu | Leu | Gln | Glu | Leu | Ser | Thr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gln | Gly | Gln | Gly | Glu | Pro | Arg | Glu | Lys | Arg | Pro | Gly | Leu | Leu | Ser | Phe |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Leu | Ile | Cys | Ser | Cys | Pro | Pro | Leu | Ser | Ser | Thr | Pro | Leu | Pro | Phe | Pro |
| | | | | 85 | | | | | 90 | | | | | 95 | |
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| Thr | Arg | Thr | Leu | Ile | Phe | Asn | Pro | Ile | Pro | Leu | Pro | Pro | Thr | Leu | Pro |
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| His | Phe | Asp | Leu | Ile | Leu | Trp | Leu | Trp | Ala | Glu | Ala | Ser | Gln | Gly | Ser |
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| Trp | Val | Gly | Trp | Val | Leu | Arg | Pro | Pro | Gln | Thr | Ser | Thr | Glu | Thr | Cys |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
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 gccccaaata tcacagccaa cctcacctcg tccctgctga gcgtctgtgg gtggagccag
 120
 accatcaacc ctgaggacga cacggatcct ggccatgctg acctggctct ctatatcact
 180

aggtttgacc tggagttgcc tgatggtaac nccggcagtgc ggggcgtcac ccagctgggc
 240
 ggggcctgct ccccaacctg gagctgcctc attaccgagg aacttggtt cgacctggga
 300
 gtcaccattg cccatgagat tgggcacagc ttcggcctgg agcacgacgg cgcgc
 355

<210> 4864
 <211> 118
 <212> PRT
 <213> Homo sapiens

<400> 4864
 Leu Gly Ala His Phe Arg Val His Leu Val Lys Met Val Ile Leu Thr
 1 5 10 15
 Glu Pro Glu Gly Ala Pro Asn Ile Thr Ala Asn Leu Thr Ser Ser Leu
 20 25 30
 Leu Ser Val Cys Gly Trp Ser Gln Thr Ile Asn Pro Glu Asp Asp Thr
 35 40 45
 Asp Pro Gly His Ala Asp Leu Val Leu Tyr Ile Thr Arg Phe Asp Leu
 50 55 60
 Glu Leu Pro Asp Gly Asn Xaa Ala Val Arg Gly Val Thr Gln Leu Gly
 65 70 75 80
 Gly Ala Cys Ser Pro Thr Trp Ser Cys Leu Ile Thr Glu Asp Thr Gly
 85 90 95
 Phe Asp Leu Gly Val Thr Ile Ala His Glu Ile Gly His Ser Phe Gly
 100 105 110
 Leu Glu His Asp Gly Ala
 115

<210> 4865
 <211> 444
 <212> DNA
 <213> Homo sapiens

<400> 4865
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 120
 aaggccttcg ccgacagctc ttacctgctt cgccaccagc gcactcactc tggccagaag
 180
 ccctacaagt gccacattg tggcaaggcc ttcggcgaca gtcctacct cctgcgacac
 240
 cagcgcaccc acagccacga gcggccctac agctgcaccg agtgcggcaa gtgctatagc
 300
 cagaactcgt ccctgcgcag ccatcagagg gtgcacaccg gtcagaggcc cttcagctgt
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 420
 gcccgggaga agcccttcac gcgt
 444

<210> 4866

<211> 148
 <212> PRT
 <213> Homo sapiens

<400> 4866
 Thr Gly Glu Lys Pro Tyr Lys Cys Glu Val Cys Ser Lys Ala Phe Ser
 1 5 10 15
 Gln Ser Ser Asp Leu Ile Lys His Gln Arg Thr His Thr Gly Glu Arg
 20 25 30
 Pro Tyr Lys Cys Pro Arg Cys Gly Lys Ala Phe Ala Asp Ser Ser Tyr
 35 40 45
 Leu Leu Arg His Gln Arg Thr His Ser Gly Gln Lys Pro Tyr Lys Cys
 50 55 60
 Pro His Cys Gly Lys Ala Phe Gly Asp Ser Ser Tyr Leu Leu Arg His
 65 70 75 80
 Gln Arg Thr His Ser His Glu Arg Pro Tyr Ser Cys Thr Glu Cys Gly
 85 90 95
 Lys Cys Tyr Ser Gln Asn Ser Ser Leu Arg Ser His Gln Arg Val His
 100 105 110
 Thr Gly Gln Arg Pro Phe Ser Cys Gly Ile Cys Gly Lys Ser Phe Ser
 115 120 125
 Gln Arg Ser Ala Leu Ile Pro His Ala Arg Ser His Ala Arg Glu Lys
 130 135 140
 Pro Phe Thr Arg
 145

<210> 4867
 <211> 391
 <212> DNA
 <213> Homo sapiens

<400> 4867
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 120
 ccttctccac atccccattc tggtaggaaa agtcacccat gccaggatat cccagccca
 180
 gagacagccc cagggggtgc tgctggaga cagccgggat agcttcagtc tcctgacct
 240
 gacacgggct gcaccaccag acaatgggca ttttcaggcc agactctggc acaaagagaa
 300
 ggggcagggc caaggctatg gccacaagc tcctcagcag ctgagatggg tgcaggaggt
 360
 agcgctctac tcccatagct cccactgta t
 391

<210> 4868
 <211> 125
 <212> PRT
 <213> Homo sapiens

<400> 4868
 Met Gly Val Glu Arg Tyr Leu Leu His Pro Ser Gln Leu Leu Arg Ser

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      1             5             10             15
Leu Trp Ala Ile Ala Leu Ala Leu Pro Leu Leu Phe Val Pro Glu Ser
      20             25             30
Gly Leu Lys Met Pro Ile Val Trp Trp Cys Ser Pro Cys Gln Gly Gln
      35             40             45
Glu Thr Glu Ala Ile Pro Ala Val Ser Arg Gln His Pro Leu Gly Leu
      50             55             60
Ser Leu Gly Trp Gly Tyr Pro Gly Met Gly Asp Phe Ser Tyr Gln Asn
      65             70             75             80
Gly Asp Val Glu Lys Glu Ala Asp Val Pro Arg Leu Val Ala Ser Phe
      85             90             95
Cys Pro Ser His Pro Pro Thr Lys Asp Met Arg Leu Leu Pro Ser Asn
      100            105            110
Leu Leu Gly Ala Ser Pro Asp Arg Thr Pro Ser Gly Ile
      115            120            125

```

<210> 4869
 <211> 418
 <212> DNA
 <213> Homo sapiens

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<400> 4869
cccgggaaga gggtcgcccg ccataaatgc ggaaacagtt aaatggcgat gggaatagga
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120
caggactgca cggactgcct ggggaggggt ctttggcccc ccggttcctg caggggggct
180
cggggaggcc ctgtgagcag ttggtcacag gtgggtccca ttcgatgca tctgttcct
240
ccccaacagc cctggagaag ggggacgttg cctgctgtgg ctgcggctgt tttctggcc
300
tgtgagaggc ggggccagag tggcgttgg gaatctgggt gttgcaaggt gaccacaaac
360
agctctctgg gggaggagga ggaaaatgca attgattttc aggagccttc tgaggtcg
418

```

<210> 4870
 <211> 125
 <212> PRT
 <213> Homo sapiens

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<400> 4870
Met Ala Met Gly Ile Gly Trp Glu Leu Asn Gly Val Ala Thr Phe Gly
      1             5             10             15
Trp Thr Arg Arg Gln Pro Ser Phe Leu Gly Gln Asp Cys Thr Asp Cys
      20             25             30
Leu Gly Arg Gly Leu Trp Pro Pro Gly Ser Cys Arg Gly Ala Arg Gly
      35             40             45
Gly Pro Val Ser Ser Trp Ser Gln Val Gly Pro Ile Arg Cys Asp Pro
      50             55             60
Val Pro Pro Gln Gln Pro Trp Arg Arg Gly Thr Leu Pro Ala Val Ala
      65             70             75             80
Ala Ala Val Phe Leu Ala Cys Glu Arg Arg Gly Gln Ser Gly Arg Trp

```

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| | | | | 85 | | | | | | 90 | | | | | 95 | | | | |
| Glu | Ser | Gly | Cys | Cys | Lys | Val | Thr | Thr | Asn | Ser | Ser | Leu | Gly | Glu | Glu | | | | |
| | | | | 100 | | | | | 105 | | | | 110 | | | | | | |
| Glu | Glu | Asn | Ala | Ile | Asp | Phe | Gln | Glu | Pro | Ser | Glu | Val | | | | | | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | | | |

<210> 4871

<211> 1354

<212> DNA

<213> Homo sapiens

<400> 4871

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120
cagccctca ggccatgctg ctgctcagct gcatggcaaa gtcctgcaca tgctccttca
180
gagtctggcg ggcattctgc tgtgcccgtc tctcccgctc ccgctcctgc tgcagcttgg
240
tcagtctcaa ccgcagccgc tgctcccgc gcttgaggc ctgcagctgg cgctgggcct
300
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420
gagggggaga ctggccgtgg ttcgagaggg gagggctgcc gctctggtga aggctgggcg
480
ctgcagcctg cttcatctgc ctgggcaccc aaggggcccc gtaggtctga aaaggggctg
540
ctaaggccag gctccagcct ccagctggg gaggcggca aagtggcagg tgctgagggc
600
tcttccacag gaaagcaggt gacatcagca ggtggaggtg gagaaaatgg agttgtgggc
660
cctcgccct cggagcagcg cttcctgcat cgtctaagcc ggctgacttc aggggggcca
720
ggtgggtaac tgtgtccttt ggtcttgggt gtccggcgca acttgagaaa agactcaaat
780
atggtgggga ctgccccctc ctttagcctg tgatatccac tgattccac cagctcaaag
840
cagtcctcct caaagtgttt ggagcagaag tagatgtact cggatgcccg gtcccacagg
900
ccctggccgc tgggggtccag ccgctggcag ttggccagcc acaagcctcg cctcggggtg
960
tccttcttgg gaagtctgtg gagccacaaa cccgtgagca ccaggctgtc cacagccctg
1020
ggctcatgct gcccaagcac ccagagggg aaacgcagac ccaacacgcg ccgccacgag
1080
acctccctgc gaccccgccg ggtaagcacc accgcccggg cacagacgag gcaacggagg
1140
cctcgagaag aaaagcagtt tctcagcgt catctggcag gtaacagagt ggggcgggtc
1200
caagccggct agacttccc tctcccctt cccgactgca ttcagtccc cggggaccgt
1260

```


tccgcttcac ctcccaccca caggttcaag cctcctcagt atctgagaaa ggcgcgaagc
 1320
 ctctacgcag ttgcgacccg aggcgagcaa caac
 1354

<210> 4872
 <211> 90
 <212> PRT
 <213> Homo sapiens

<400> 4872
 Gly Arg Lys Arg Leu Gln Ser Cys Trp Ala Ala Pro Arg Ser Val Gln
 1 5 10 15
 Gln Pro Leu Arg Pro Cys Cys Cys Ser Ala Ala Trp Gln Ser Pro Ala
 20 25 30
 His Ala Pro Ser Glu Ser Gly Gly His Leu Pro Val Pro Ala Ser Pro
 35 40 45
 Val Pro Ala Pro Ala Ala Ala Trp Ser Val Ser Thr Ala Ala Ala Ala
 50 55 60
 Pro Ala Ala Cys Arg Pro Ala Ala Gly Ala Gly Pro Cys Gln Gly His
 65 70 75 80
 Gln Gly Leu Pro Gly Ser Pro Leu Pro Glu
 85 90

<210> 4873
 <211> 948
 <212> DNA
 <213> Homo sapiens

<400> 4873
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 120
 ccactgtgag ttgaactctt tcgtgttgac cggccactct ccgtgctctg gatgatgtcg
 180
 gaacacgacc tggccgatgt ggttcaaatt gcagtggaag acctgagccc tgaccaccca
 240
 ggtacagagc tgtgggacag tgttgttttg gagaatcatg tagtgacaga tgaagacgaa
 300
 cctgctttga aagccagcg actagaaatc aattgccagg atccatctat aaagtcattc
 360
 ctgtattcca tcaaccagac aatctgcttg cggttggata gcattgaagc caaattgcaa
 420
 gccctggagg ctacttgtaa atccttagaa gaaaagctgg atctggtcac gaacaagcag
 480
 cacagcccca tccaggttcc catggtggcc ggctcccctc tcaggacaac ccagatgtgc
 540
 aacaaagtgc gatggtaaga acagaccagg gtgccggggc cttcaggtca cttggggaga
 600
 agcgcgtcac ctctcgccc atgcccgcag cttagtggct cagtttgctg gagatgcgca
 660
 gtgtctgcct cagcagtctc agcagtttct aactaaagct gactttagtt agaccgaaac
 720

cgaacacatg gcacccctgcc aggatgacct gaagtcaccc tcacctttcc ttccacata
 780
 aagccggccc atacaccttt tctttggaac taaccaccca gatcttagaa gatgtacacg
 840
 tgcttctttc ctttttcccta ctctacctgg ctagtcttta gatatgtttt tcttcgtatg
 900
 tgggtgtttat acatttcaca tgaatatatc aaacttttca ttcaaaaa
 948

<210> 4874
 <211> 128
 <212> PRT
 <213> Homo sapiens

<400> 4874
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 Asp Leu Ser Pro Asp His Pro Gly Thr Glu Leu Trp Asp Ser Val Val
 20 25 30
 Leu Glu Asn His Val Val Thr Asp Glu Asp Glu Pro Ala Leu Lys Arg
 35 40 45
 Gln Arg Leu Glu Ile Asn Cys Gln Asp Pro Ser Ile Lys Ser Phe Leu
 50 55 60
 Tyr Ser Ile Asn Gln Thr Ile Cys Leu Arg Leu Asp Ser Ile Glu Ala
 65 70 75 80
 Lys Leu Gln Ala Leu Glu Ala Thr Cys Lys Ser Leu Glu Glu Lys Leu
 85 90 95
 Asp Leu Val Thr Asn Lys Gln His Ser Pro Ile Gln Val Pro Met Val
 100 105 110
 Ala Gly Ser Pro Leu Arg Thr Thr Gln Met Cys Asn Lys Val Arg Trp
 115 120 125

<210> 4875
 <211> 1255
 <212> DNA
 <213> Homo sapiens

<400> 4875
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 120
 tggacgcagt tttagaaaga gcgttttcgc tacgtaaagc acattcgata aaggatatgg
 180
 aaaatacttt gcagctgggtg agaaatatca tacctcctct gtcttccaca aagcaciaag
 240
 ggcaagatgg aagaataggc gtagttggag gctgtcagga gtacactgga gccccatatt
 300
 ttgcagcaat ctcagctctc aaagtgggag cagacttgct ccacgtgttc tgtgccagtg
 360
 cggccgcacc tgtgattaag gcctacagcc cggagctgat cgtccacca gttcttgaca
 420
 gcccgaatgc tgttcattgag gtggagaagt ggctgccccg gctgcatgct cttgtcgtag
 480

gacctggcctt gggtagagat gatcggtccac ccagttcttg acagccccaac tgctgttcat
 540
 gaggtggaga agtggctgcc ccggctgcat gctcttgctg taggaactgg cttgggtaga
 600
 gatgatgcgc ttctcagaaa tgtccagggc attttgaag tgtcaaaggc cagggacatc
 660
 cctgttgctca tcgacgcgga tggcctgtgg ctggtcgctc agcagccggc cctcatccat
 720
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 780
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 840
 gccctgggca acgtgacggt ggtccagaaa ggagagcgcg acatcctctc caacggccag
 900
 caggtgcttg tgtgcagcca ggaaggcagc agccgcagggt gtggagggca aggggacctc
 960
 ctgtcgggct ccctgggcgt cctgggtacac tgggcgctcc ttgctggacc acagaaaaca
 1020
 aatgggtcca gccctctcct ggtggcgcg tttgggcctt gctctctcac caggcagtgc
 1080
 aaccaccaag ccttcagaa gcacggctgc tccaccacca cctccgacat gatcgccgag
 1140
 gtgggggccc ccttcagcaa gctctttgaa acctgagccc gcgcagacca gaagtaaaca
 1200
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 1255

<210> 4876

<211> 230

<212> PRT

<213> Homo sapiens

<400> 4876

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Ala | Trp | Val | Glu | Met | Ile | Val | His | Pro | Val | Leu | Asp | Ser | Pro | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Val | His | Glu | Val | Glu | Lys | Trp | Leu | Pro | Arg | Leu | His | Ala | Leu | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Gly | Thr | Gly | Leu | Gly | Arg | Asp | Asp | Ala | Leu | Leu | Arg | Asn | Val | Gln |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Gly | Ile | Leu | Glu | Val | Ser | Lys | Ala | Arg | Asp | Ile | Pro | Val | Val | Ile | Asp |
| | | | 50 | | | | 55 | | | | 60 | | | | |
| Ala | Asp | Gly | Leu | Trp | Leu | Val | Ala | Gln | Gln | Pro | Ala | Leu | Ile | His | Gly |
| 65 | | | | | | 70 | | | | 75 | | | | 80 | |
| Tyr | Arg | Lys | Ala | Val | Leu | Thr | Pro | Asn | His | Val | Glu | Phe | Ser | Arg | Leu |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Tyr | Asp | Ala | Val | Leu | Arg | Gly | Pro | Met | Asp | Ser | Asp | Asp | Ser | His | Gly |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Ser | Val | Leu | Arg | Leu | Ser | Gln | Ala | Leu | Gly | Asn | Val | Thr | Val | Val | Gln |
| | | | 115 | | | | 120 | | | | 125 | | | | |
| Lys | Gly | Glu | Arg | Asp | Ile | Leu | Ser | Asn | Gly | Gln | Gln | Val | Leu | Val | Cys |
| | | | 130 | | | | 135 | | | | 140 | | | | |
| Ser | Gln | Glu | Gly | Ser | Ser | Arg | Arg | Cys | Gly | Gly | Gln | Gly | Asp | Leu | Leu |
| 145 | | | | | | 150 | | | | 155 | | | | 160 | |
| Ser | Gly | Ser | Leu | Gly | Val | Leu | Val | His | Trp | Ala | Leu | Leu | Ala | Gly | Pro |

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<210> 4877
<211> 1182
<212> DNA
<213> Homo sapiens
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4055

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1182

<210> 4878

<211> 122

<212> PRT

<213> Homo sapiens

<400> 4878

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Met Ala Val Ser His Ser Val Lys Glu Arg Thr Ile Ser Glu Asn Ser
 1           5           10           15
Leu Ile Ile Leu Leu Gln Gly Leu Gln Gly Arg Val Thr Thr Val Asp
 20           25           30
Leu Arg Asp Glu Ser Val Ala His Gly Arg Ile Asp Asn Val Asp Ala
 35           40           45
Phe Met Asn Ile Arg Leu Ala Lys Val Thr Tyr Thr Asp Arg Trp Gly
 50           55           60
His Gln Val Lys Leu Asp Asp Leu Phe Val Thr Gly Arg Asn Val Arg
 65           70           75           80
Tyr Val His Ile Pro Asp Asp Val Asn Ile Thr Ser Thr Ile Glu Gln
 85           90           95
Gln Leu Gln Ile Ile His Arg Val Arg Asn Phe Gly Gly Lys Gly Gln
100          105          110
Gly Arg Trp Glu Phe Pro Pro Lys Lys Leu
115          120
```

<210> 4879

<211> 1941

<212> DNA

<213> Homo sapiens

<400> 4879

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120
gctgggcttg gaggatgcct ctccgaccca ctgatgctgg gggcgagga ctcgggtcaag
180
ggaggggcaa gaggaggagg agagcctgcc gttccaactt gccatcaga gaccgggaca
240
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300
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360
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480
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540
gcaatctggg acgtgggtca agttcaagac ttgaaggaag caaagacgcc ctgcatggtt
600
acaatggctc aggtgtcagg ggaggccgga ggttttccag catttgcctc atgccagcac
660
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ctttgaaccg gtctcttaga agaagacaca catcctgggt gtacagtgggt gaaatgggga
 720
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 780
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 1020
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 1080
 cattggcaga attacttgtc ttgaaaaata agtagcattg ctgaaacaca caaccgaatt
 1140
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 agagtgggtg gcagatctga ccacccac agaccagaaa caaggaattt ctgggattac
 1500
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 1560
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 1620
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 1680
 aatcagtgcc acggattgca ggccaaattt cagatcgtgt ttccaaacac ccttgctgtg
 1740
 ccctttaatg ggattgaaag cacttttacc acatggagaa atatattttt aatttgtgat
 1800
 gcttttctac aaggtccact atttctgagt ttaatgtgtt tccaacactt aaggagactc
 1860
 taatgaaagc tgatgaattt tcttttctgt ccaaacaagt aaaataaaaa taaaagtcta
 1920
 tttagatgtt gaaaaaaaa a
 1941

<210> 4880

<211> 202

<212> PRT

<213> Homo sapiens

<400> 4880

Met Val Arg Ser Ala His His Ser Gly Thr Glu Ala Ser Leu Glu Thr
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 His Lys Pro Gly Leu Gly Lys Cys Pro Asp Leu Pro Gly Gly His Thr

```
<210> 4881
<211> 1333
<212> DNA
<213> Homo sapiens
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4058

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 840
 caggggctga caaagaagaa gtggaggcag tgaccgcact ggcgccctc tctgtgggca
 900
 tcttggtga agataggtaa tgccagacnc tggggcctgg gccgcagcc tctccaccgc
 960
 ttcattcctc cctgcttgaa gaccccggt cgcctatgca gccaccccaa cctcccagg
 1020
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 1080
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 1320
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 1333

<210> 4882

<211> 100

<212> PRT

<213> Homo sapiens

<400> 4882

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Phe | Phe | Phe | Thr | Cys | Glu | Ser | Phe | Phe | Ile | Arg | Glu | Glu | Ala | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Glu | Ala | Thr | Gly | Val | Glu | Asn | Arg | Val | Thr | Ser | Pro | Leu | Pro | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Pro | Phe | Leu | Pro | Ser | Gln | Pro | Leu | Gly | Phe | Gly | Tyr | Met | Thr | Gln |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Gln | Leu | Met | Asn | Leu | Ala | Gly | Gly | Ala | Val | Val | Leu | Ala | Leu | Glu | Gly |
| | | 50 | | | | 55 | | | | 60 | | | | | |
| Gly | His | Asp | Leu | Thr | Ala | Ile | Cys | Asp | Ala | Ser | Glu | Ala | Cys | Val | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ala | Leu | Leu | Gly | Asn | Arg | Val | Ser | Arg | Leu | Pro | Pro | Pro | Ser | Met | Leu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Ser | Gly | Arg | | | | | | | | | | | | |
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<210> 4883

<211> 1371

<212> DNA

<213> Homo sapiens

<400> 4883

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cgcttcctga aaaaaacaaa acaaaagctg accgtatgtc ctatcatcaa tggggaagac
 180
 caccttcggt tgttgaactt tcaacacaat tttataactc ggatacaaaa tatttcta
 240
 ctacagaagt taatatcggt ggatttatat gataaccaga ttgaagaaat tagtgggctt
 300
 tcgactctga gatgtcttcg tgtccttctg ttggggaaaa acagaatcaa gaaaatctca
 360
 aatctggaga atctaaaaag cttagatgtc ttggatcttc atggaaatca gattacaaa
 420
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 600
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 720
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 780
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 840
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 900
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<210> 4884<211> 410

<212> PRT

<213> Homo sapiens

<400> 4884

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Ala | Gly | Phe | Ile | Trp | Leu | Phe | Lys | His | His | Arg | Phe | Leu | Lys | Lys |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Thr | Lys | Gln | Lys | Leu | Thr | Val | Cys | Pro | Ile | Ile | Asn | Gly | Glu | Asp | His |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Arg | Leu | Leu | Asn | Phe | Gln | His | Asn | Phe | Ile | Thr | Arg | Ile | Gln | Asn |
| | | 35 | | | | | 40 | | | | | | 45 | | |

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Ile Ser Asn Leu Gln Lys Leu Ile Ser Leu Asp Leu Tyr Asp Asn Gln
 50          55          60
Ile Glu Glu Ile Ser Gly Leu Ser Thr Leu Arg Cys Leu Arg Val Leu
65          70          75          80
Leu Leu Gly Lys Asn Arg Ile Lys Lys Ile Ser Asn Leu Glu Asn Leu
          85          90          95
Lys Ser Leu Asp Val Leu Asp Leu His Gly Asn Gln Ile Thr Lys Ile
          100          105          110
Glu Asn Ile Asn His Leu Cys Glu Leu Arg Val Leu Asn Leu Ala Arg
          115          120          125
Asn Phe Leu Ser His Val Asp Asn Leu Asn Gly Leu Asp Ser Leu Thr
          130          135          140
Glu Leu Asn Leu Arg His Asn Gln Ile Thr Phe Val Arg Asp Val Asp
145          150          155          160
Asn Leu Pro Cys Leu Gln His Leu Phe Leu Ser Phe Asn Asn Ile Ser
          165          170          175
Ser Phe Asp Ser Val Ser Cys Leu Ala Asp Ser Ser Ser Leu Ser Asp
          180          185          190
Ile Thr Phe Asp Gly Asn Pro Ile Ala Gln Glu Ser Trp Tyr Lys His
          195          200          205
Thr Val Leu Gln Asn Met Met Gln Leu Arg Gln Leu Asp Met Lys Arg
          210          215          220
Ile Thr Glu Glu Glu Arg Arg Met Ala Ser Val Leu Ala Lys Lys Glu
225          230          235          240
Glu Glu Lys Lys Arg Glu Ser His Lys Gln Ser Leu Leu Lys Glu Lys
          245          250          255
Lys Arg Leu Thr Ile Asn Asn Val Ala Arg Gln Trp Asp Leu Gln Gln
          260          265          270
Arg Val Ala Asn Ile Ala Thr Asn Glu Asp Arg Lys Asp Ser Asp Ser
          275          280          285
Pro Gln Asp Pro Cys Gln Ile Asp Gly Ser Thr Leu Ser Ala Phe Pro
          290          295          300
Glu Glu Thr Gly Pro Leu Asp Ser Gly Leu Asn Asn Ala Leu Gln Gly
305          310          315          320
Leu Ser Val Ile Asp Thr Tyr Leu Val Glu Val Asp Gly Asp Thr Leu
          325          330          335
Ser Leu Tyr Gly Ser Gly Ala Leu Glu Ser Leu Asp Arg Asn Trp Ser
          340          345          350
Val Gln Thr Ala Gly Met Ile Thr Thr Val Ser Phe Thr Phe Ile Glu
          355          360          365
Phe Asp Glu Ile Val Gln Val Leu Pro Lys Leu Lys Ile Lys Phe Pro
          370          375          380
Asn Ser Leu His Leu Lys Phe Lys Glu Thr Asn Leu Val Met Gln Gln
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Phe Asn Ala Leu Ala Gln Leu Arg Arg Tyr
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<210> 4885

<211> 489

<212> DNA

<213> Homo sapiens

<400> 4885

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 180
 aacctgggtct ccttggtagg atttccattt tccaaacctg gtatcatctc ctagttggaa
 240
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 300
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 360
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 480
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 489

<210> 4886

<211> 77

<212> PRT

<213> Homo sapiens

<400> 4886

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Lys | Lys | Glu | Asn | Met | Ala | Ala | Leu | Cys | Arg | Thr | Ala | Glu | Ser | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asn | Pro | Met | Gln | Val | Phe | Gln | Gly | Phe | Met | Ser | Phe | Lys | Asp | Val | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Asn | Phe | Thr | Arg | Xaa | Glu | Trp | Arg | Glu | Leu | Asp | Leu | Ala | Gln | Arg |
| | | | 35 | | | | | 40 | | | | 45 | | | |
| Val | Leu | Tyr | Arg | Asp | Val | Met | Leu | Glu | Asn | Tyr | Arg | Asn | Leu | Val | Ser |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Val | Gly | Phe | Pro | Phe | Ser | Lys | Pro | Gly | Ile | Ile | Ser | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | |

<210> 4887

<211> 2271

<212> DNA

<213> Homo sapiens

<400> 4887

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 240
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 300
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 360

cagcatctat ctctattaaa tgtagaggaa ttgacaaaag aggggaaaga aagttgttag
420
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720
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1140
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1200
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1980

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 2040
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 2160
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 2271

<210> 4888

<211> 429

<212> PRT

<213> Homo sapiens

<400> 4888

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Tyr | Ser | Cys | Leu | Lys | Cys | Phe | Ser | Phe | Val | Phe | Gln | Gly | Ile | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Gly | Asp | Ile | Pro | Leu | Pro | Gly | Ser | Ile | Ser | Asp | Gly | Met | Asn | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ala | His | Tyr | His | Val | Asn | Phe | Ser | Gln | Ala | Ile | Ser | Gln | Asp | Val |
| | 35 | | | | | | 40 | | | | | 45 | | | |
| Asn | Leu | His | Glu | Ala | Ile | Leu | Leu | Cys | Pro | Asn | Asn | Thr | Phe | Arg | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Asp | Pro | Thr | Ala | Arg | Thr | Ser | Gln | Ser | Gln | Glu | Pro | Phe | Leu | Gln | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Asn | Ser | His | Thr | Thr | Asn | Pro | Glu | Gln | Thr | Leu | Pro | Gly | Thr | Asn | Leu |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Thr | Gly | Phe | Leu | Ser | Pro | Val | Asp | Asn | His | Met | Arg | Asn | Leu | Thr | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gln | Asp | Leu | Leu | Tyr | Asp | Leu | Asp | Ile | Asn | Ile | Phe | Asp | Glu | Ile | Asn |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Leu | Met | Ser | Leu | Ala | Thr | Glu | Asp | Asn | Phe | Asp | Pro | Ile | Asp | Val | Ser |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gln | Leu | Phe | Asp | Glu | Pro | Asp | Ser | Asp | Ser | Gly | Leu | Ser | Leu | Asp | Ser |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Ser | His | Asn | Asn | Thr | Ser | Val | Ile | Lys | Ser | Asn | Ser | Ser | His | Ser | Val |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Cys | Asp | Glu | Gly | Ala | Ile | Gly | Tyr | Cys | Thr | Asp | His | Glu | Ser | Ser | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| His | His | Asp | Leu | Glu | Gly | Ala | Val | Gly | Gly | Tyr | Tyr | Pro | Glu | Pro | Ser |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Lys | Leu | Cys | His | Leu | Asp | Gln | Ser | Asp | Ser | Asp | Phe | His | Gly | Asp | Leu |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Thr | Phe | Gln | His | Val | Phe | His | Asn | His | Thr | Tyr | His | Leu | Gln | Pro | Thr |
| 225 | | | | 230 | | | | | | 235 | | | | 240 | |
| Ala | Pro | Glu | Ser | Thr | Ser | Asp | Xaa | Phe | Pro | Xaa | Ala | Gly | Lys | Ser | Gln |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Lys | Ile | Arg | Ser | Arg | Tyr | Leu | Glu | Asp | Pro | Asp | Arg | Thr | Leu | Ser | Arg |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Asp | Asp | Gln | Arg | Ala | Lys | Ala | Leu | His | Ile | Pro | Phe | Ser | Val | Asp | Glu |
| | | 275 | | | | 280 | | | | | | 285 | | | |
| Ile | Val | Gly | Met | Pro | Val | Asp | Ser | Phe | Asn | Ser | Met | Leu | Ser | Arg | Tyr |

| | | | | |
|---|-----|-----|-----|-----|
| 290 | | 295 | | 300 |
| Tyr Leu Thr Asp Leu Gln Val Ser Leu Ile Arg Asp Ile Arg Arg Arg | | | | |
| 305 | | 310 | | 315 |
| Gly Lys Asn Lys Val Ala Ala Gln Asn Cys Arg Lys Arg Lys Leu Asp | | | | 320 |
| | 325 | | 330 | 335 |
| Ile Ile Leu Asn Leu Glu Asp Asp Val Cys Asn Leu Gln Ala Lys Lys | | | | |
| | 340 | | 345 | 350 |
| Glu Thr Leu Lys Arg Glu Gln Ala Gln Cys Asn Lys Ala Ile Asn Ile | | | | |
| | 355 | | 360 | 365 |
| Met Lys Gln Lys Leu His Asp Leu Tyr His Asp Ile Phe Ser Arg Leu | | | | |
| | 370 | | 375 | 380 |
| Arg Asp Asp Gln Gly Arg Pro Val Asn Pro Asn His Tyr Ala Leu Gln | | | | |
| 385 | | 390 | | 395 |
| Cys Thr His Asp Gly Ser Ile Leu Ile Val Pro Lys Glu Leu Val Ala | | | | 400 |
| | 405 | | 410 | 415 |
| Ser Gly His Lys Lys Glu Thr Gln Lys Gly Lys Arg Lys | | | | |
| | 420 | | 425 | |

<210> 4889

<211> 619

<212> DNA

<213> Homo sapiens

<400> 4889

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<210> 4890

<211> 90

<212> PRT

<213> Homo sapiens

<400> 4890

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| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | | 5 | | 10 | | 15 | | | | | | | | | |
| His | Thr | Pro | Pro | Asn | Gly | Ile | Arg | Asp | Trp | Ala | Lys | Gln | Arg | Met | Trp |
| | | 20 | | 25 | | 30 | | | | | | | | | |
| Arg | Thr | Gly | Gln | Pro | Gln | Pro | Ala | Pro | Thr | Arg | Val | Asn | Ile | Ser | Arg |
| | | 35 | | 40 | | 45 | | | | | | | | | |
| Pro | Ser | Pro | Thr | Leu | Phe | Pro | Asp | Ser | Gln | Gln | Thr | Asp | Val | Gly | Ser |
| | | 50 | | 55 | | 60 | | | | | | | | | |
| Arg | Thr | Asp | Pro | Phe | Thr | His | Thr | His | Thr | His | Ser | His | Ser | Phe | Ala |
| 65 | | | | 70 | | 75 | | | | | | | | 80 | |
| His | Ile | His | Ser | Cys | Thr | His | Ala | Met | Tyr | | | | | | |
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<210> 4891

<211> 1998

<212> DNA

<213> Homo sapiens

<400> 4891

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960
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1080

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<400> 4892

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| Pro | Leu | Pro | Lys | Lys | Arg | Lys | Gly | Arg | Pro | Pro | Gly | His | Ile | Leu | Ser |
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| Gly | Gly | Thr | Arg | Gly | Arg | Ile | Tyr | Ile | Lys | His | Pro | His | Leu | Phe | Lys |

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<211> 399

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<213> Homo sapiens

<400> 4894

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| | | | 20 | | | | 25 | | | | | 30 | | | |
| Pro | Ser | Ala | Arg | Ala | Arg | Pro | Arg | His | Lys | Ser | Leu | Asn | Ile | Lys | Asp |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Lys | Ile | Ser | Glu | Trp | Glu | Gly | Lys | Lys | Glu | Val | Pro | Thr | Pro | Ala | Pro |
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| Ser | Arg | Arg | Ala | Asp | Gly | Gln | Glu | Asp | Tyr | Leu | Pro | Ser | Ser | Thr | Val |
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| Glu | Arg | Arg | Ser | Ser | Asp | Gly | Val | Arg | Thr | Gln | Val | Thr | Glu | Ala | Lys |
| | | | 85 | | | | | 90 | | | | | 95 | | |
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| | | 20 | | | | | 25 | | | | | 30 | | | |
| Asn | His | Pro | Asp | Ser | Ala | Ser | Glu | Lys | Asn | Pro | Val | Thr | Leu | Leu | Lys |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Glu | Leu | Ser | Val | Ile | Lys | Ser | Arg | Tyr | Gln | Thr | Leu | Tyr | Ala | Arg | Phe |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Lys | Pro | Val | Ala | Val | Glu | Gln | Lys | Glu | Ser | Lys | Ser | Arg | Ile | Cys | Ala |
| 65 | | | | 70 | | | | 75 | | | | | 80 | | |
| Thr | Val | Lys | Lys | Thr | Met | Asn | Met | Ile | Gln | Lys | Leu | Gln | Lys | Gln | Thr |
| | | 85 | | | | | | 90 | | | | | 95 | | |
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<210> 4897

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960

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 1140
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 1380
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 1520

<210> 4902

<211> 184

<212> PRT

<213> Homo sapiens

<400> 4902

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Gly | Gln | Arg | Val | Asp | Val | Lys | Val | Val | Met | Leu | Gly | Lys | Glu |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Tyr | Val | Gly | Lys | Thr | Ser | Leu | Val | Glu | Arg | Tyr | Val | His | Asp | Arg | Phe |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Val | Gly | Pro | Tyr | Gln | Asn | Thr | Ile | Gly | Ala | Ala | Phe | Val | Ala | Lys |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Val | Met | Ser | Val | Gly | Asp | Arg | Thr | Val | Thr | Leu | Gly | Ile | Trp | Asp | Thr |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Ala | Gly | Ser | Glu | Arg | Tyr | Glu | Ala | Met | Ser | Arg | Ile | Tyr | Tyr | Arg | Gly |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ala | Lys | Ala | Ala | Ile | Val | Cys | Tyr | Asp | Leu | Thr | Asp | Ser | Ser | Ser | Phe |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Glu | Arg | Ala | Lys | Phe | Trp | Val | Lys | Glu | Leu | Arg | Ser | Leu | Glu | Glu | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Cys | Gln | Ile | Tyr | Leu | Cys | Gly | Thr | Lys | Ser | Asp | Leu | Leu | Glu | Glu | Asp |
| | | 115 | | | | | 120 | | | | | | 125 | | |
| Arg | Arg | Arg | Arg | Arg | Val | Asp | Phe | His | Asp | Val | Gln | Asp | Tyr | Ala | Asp |
| | | 130 | | | | 135 | | | | | | 140 | | | |
| Ser | Ser | Cys | Ser | Ser | Ala | Leu | Trp | Gly | Val | Gly | Val | Cys | Gly | Cys | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Gly | Gly | Ser | Lys | Lys | Ile | Gly | Thr | Ala | Leu | Ala | Ala | Arg | Ala | Arg | Cys |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Ser | Arg | Arg | Ser | Ser | Trp | Pro | Pro | | | | | | | | |
| | | | 180 | | | | | | | | | | | | |

<210> 4903

<211> 1064

<212> DNA

<213> Homo sapiens

<400> 4903

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tcattattcc cacatccctt tccttactac ttgcctgcac ttcttgagaa aaagactgca
180
gaaaggagag gtggggcctt cagtagaaac aagcaaaccg cagtccctgt ggggggactc
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tccaggaaga aggttccgca agaaccgtgg gcgacagtta tggagaagcg tctgcaggag
300
gctcagctgt acaaggagga agggaaccag cgctaccggg aagggaagta ccgagatgct
360
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420
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cccgtaact acgaacgagt gagagaatat agtcagaaag tccgtggaacg acagcctgat
600
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720
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780
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<210> 4904

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4904

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Leu Leu Glu Lys Lys Thr Ala Glu Arg Arg Gly Gly Ala Phe Ser Arg
20           25           30
Asn Lys Gln Thr Ala Val Pro Val Gly Gly Leu Ser Arg Lys Lys Val
35           40           45
Pro Gln Glu Pro Trp Ala Thr Val Met Glu Lys Arg Leu Gln Glu Ala

```

```

      50              55              60
Gln Leu Tyr Lys Glu Glu Gly Asn Gln Arg Tyr Arg Glu Gly Lys Tyr
65
Arg Asp Ala Val Ser Arg Tyr His Arg Ala Leu Leu Gln Leu Arg Gly
      70              75              80
      85              90              95
Leu Asp Pro Xaa Ser Ala Leu Ser Val Thr
      100              105

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<210> 4905
 <211> 615
 <212> DNA
 <213> Homo sapiens

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120
tgccccggcg tccagcgagg gtggcacgaa caggaggcct gcccctgggc acagcacgct
180
taggggcagc gactgtgtct ggcagcggca gcgcgggga catgggctgg gtgtgccgag
240
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300
ggcgcctgg gcaacgtcaa cagttgggc ctgcaccaca acctgctggc ttctgtgccc
360
gccggcgctt tttcccgctt gcacaagctg gcccggtgg acatgacctc caaccgctg
420
accacaatcc caccgaccc actcttctcc cgctgcccc tgctcgccag gccccggggc
480
tcgccccgct ctgccctggt gctggccttt ggcggaacc cctgcactg caactgcgag
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600
gctctgggag gccgc
615

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<210> 4906
 <211> 144
 <212> PRT
 <213> Homo sapiens

```

<400> 4906
Gly Gln Arg Leu Cys Leu Ala Ala Ala Ala Gly Thr Trp Ala Gly
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Cys Ala Glu Thr Leu Glu Asp Leu Asp Leu Ser Tyr Asn Asn Leu Glu
      20      25      30
Gln Leu Pro Trp Glu Ala Leu Gly Arg Leu Gly Asn Val Asn Thr Leu
      35      40      45
Gly Leu Asp His Asn Leu Leu Ala Ser Val Pro Ala Gly Ala Phe Ser
      50      55      60
Arg Leu His Lys Leu Ala Arg Leu Asp Met Thr Ser Asn Arg Leu Thr
      65      70      75      80
Thr Ile Pro Pro Asp Pro Leu Phe Ser Arg Leu Pro Leu Leu Ala Arg

```

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | 85 | | | | | 90 | | | | 95 | | | |
| Pro | Arg | Gly | Ser | Pro | Ala | Ser | Ala | Leu | Val | Leu | Ala | Phe | Gly | Gly | Asn |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Leu | His | Cys | Asn | Cys | Glu | Leu | Val | Trp | Leu | Arg | Arg | Leu | Ala | Arg |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Glu | Asp | Asp | Leu | Glu | Ala | Cys | Ala | Ser | Pro | Pro | Ala | Leu | Gly | Gly | Arg |
| | 130 | | | | | 135 | | | | | 140 | | | | |

<210> 4907

<211> 1748

<212> DNA

<213> Homo sapiens

<400> 4907

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120
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180
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240
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300
cattcatgct ttagctaaa cactttaaga ttcaatatta ctttttttct ctctctgaa
360
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420
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540
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600
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660
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720
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960
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1080
tcacgtcat cgtccctct ccacaggccg ccgctatccg agcctccgcc agacgaggag
1140
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1200

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 1320
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 accgcgcc
 1748

<210> 4908

<211> 55

<212> PRT

<213> Homo sapiens

<400> 4908

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| Glu | Lys | Thr | Thr | Pro | Ser | Gly | Arg | Thr | Pro | Ser | Arg | Thr | Pro | Pro | Thr |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Pro | Tyr | Pro | Cys | Pro | His | Gly | Asp | Arg | Leu | Leu | Pro | Pro | Ser | Arg | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Pro | Ala | Gly | Pro | Ala | Ser | Ala | Phe | Pro | Pro | Ala | Glu | Arg | Ser | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | His | Arg | Arg | Ala | Ser | Leu | | | | | | | | | |
| | 50 | | | | | 55 | | | | | | | | | |

<210> 4909

<211> 1960

<212> DNA

<213> Homo sapiens

<400> 4909

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 120
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 360

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<210> 4910

<211> 423

<212> PRT

<213> Homo sapiens

<400> 4910

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          20           25           30
Phe Met Pro Ile Leu Met Glu Lys Glu Glu Glu Gly Met Leu Ser Pro
          35           40           45
Ile Leu Ala His Gly Gly Val Arg Phe Met Trp Ile Lys His Asn Asn
          50           55           60
Leu Tyr Leu Val Ala Thr Ser Lys Lys Asn Ala Cys Val Ser Leu Val
65           70           75           80
Phe Ser Phe Leu Tyr Lys Val Val Gln Val Phe Ser Glu Tyr Phe Lys
          85           90           95
Glu Leu Glu Glu Glu Ser Ile Arg Asp Asn Phe Val Ile Ile Tyr Glu
          100          105          110
Leu Leu Asp Glu Leu Met Asp Phe Gly Phe Pro Gln Thr Thr Asp Ser
          115          120          125
Lys Ile Leu Gln Glu Tyr Ile Thr Gln Gln Ser Asn Lys Leu Glu Thr
          130          135          140
Gly Lys Ser Arg Val Pro Pro Thr Val Thr Asn Ala Val Ser Trp Arg
145          150          155          160
Ser Glu Gly Ile Lys Tyr Lys Lys Asn Glu Val Phe Ile Asp Val Ile
          165          170          175
Glu Ser Val Asn Leu Leu Val Asn Ala Asn Gly Ser Val Leu Leu Ser
          180          185          190
Glu Ile Val Gly Thr Ile Lys Met Arg Val Phe Leu Ser Gly Met Pro
          195          200          205
Glu Leu Arg Leu Gly Leu Asn Asp Lys Val Leu Phe Asp Asn Thr Gly
          210          215          220
Arg Gly Lys Ser Lys Ser Val Glu Leu Glu Asp Val Lys Phe His Gln
225          230          235          240
Cys Val Arg Leu Ser Arg Phe Glu Asn Asp Arg Thr Ile Ser Phe Ile
          245          250          255
Pro Pro Asp Gly Glu Phe Glu Leu Met Ser Tyr Arg Leu Asn Thr His
          260          265          270
Val Lys Pro Leu Ile Trp Ile Glu Ser Val Ile Glu Lys Phe Ser His
          275          280          285
Ser Arg Ile Glu Tyr Met Val Lys Ala Lys Gly Gln Phe Lys Lys Gln
          290          295          300
Ser Val Ala Asn Gly Val Glu Ile Ser Val Pro Val Pro Ser Asp Ala
305          310          315          320
Asp Ser Pro Arg Phe Lys Thr Ser Val Gly Ser Ala Lys Tyr Val Pro
          325          330          335
Glu Arg Asn Val Val Ile Trp Ser Ile Lys Ser Phe Pro Gly Gly Lys
          340          345          350
Glu Tyr Leu Met Arg Ala His Phe Gly Leu Pro Ser Val Glu Lys Glu
          355          360          365
Glu Val Glu Gly Arg Pro Pro Ile Gly Val Lys Phe Glu Ile Pro Tyr

```


| | | | | |
|---|-----|-----|-----|-----|
| 370 | | 375 | | 380 |
| Phe Thr Val Ser Gly Ile Gln Val Arg Tyr Met Lys Ile Ile Glu Lys | | | | |
| 385 | | 390 | | 395 |
| Ser Gly Tyr Gln Ala Leu Pro Trp Val Arg Tyr Ile Thr Gln Ser Gly | | | | 400 |
| | 405 | | 410 | 415 |
| Asp Tyr Gln Leu Arg Thr Ser | | | | |
| 420 | | | | |

<210> 4911

<211> 1862

<212> DNA

<213> Homo sapiens

<400> 4911

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120
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 1860
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 1862

<210> 4912

<211> 453

<212> PRT

<213> Homo sapiens

<400> 4912

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| Met | Asp | Gly | Thr | Thr | Ala | Pro | Val | Thr | Lys | Ser | Gly | Ala | Ala | Lys | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Lys | Arg | Asn | Phe | Leu | Glu | Ala | Leu | Lys | Ser | Asn | Asp | Phe | Gly | Lys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Lys | Ala | Ile | Leu | Ile | Gln | Arg | Gln | Ile | Asp | Val | Asp | Thr | Val | Phe |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Glu | Val | Glu | Asp | Glu | Asn | Met | Val | Leu | Ala | Ser | Tyr | Lys | Gln | Gly | Tyr |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Trp | Leu | Pro | Ser | Tyr | Lys | Leu | Lys | Ser | Ser | Trp | Ala | Thr | Gly | Leu | His |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Leu | Ser | Val | Leu | Phe | Gly | His | Val | Glu | Cys | Leu | Leu | Val | Leu | Leu | Asp |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| His | Asn | Ala | Thr | Ile | Asn | Cys | Arg | Pro | Asn | Gly | Lys | Thr | Pro | Leu | His |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Val | Ala | Cys | Glu | Met | Ala | Asn | Val | Asp | Cys | Val | Lys | Ile | Leu | Cys | Asp |
| | 115 | | | | | 120 | | | | 125 | | | | | |
| Arg | Gly | Ala | Lys | Leu | Asn | Cys | Tyr | Ser | Leu | Ser | Gly | His | Thr | Ala | Leu |
| | 130 | | | | 135 | | | | | 140 | | | | | |
| His | Phe | Cys | Thr | Thr | Pro | Ser | Ser | Ile | Leu | Cys | Ala | Lys | Gln | Leu | Val |
| 145 | | | | 150 | | | | 155 | | | | | | 160 | |
| Trp | Arg | Val | Thr | Gln | Val | Asn | His | Met | Leu | Gly | Asn | Ser | Leu | Val | Asn |
| | | | 165 | | | | 170 | | | | | | 175 | | |
| Glu | Val | Glu | His | Val | Thr | Gln | Val | Asn | His | Met | Leu | Gly | Asn | Ser | Leu |

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<211> 2090
<212> DNA
<213> Homo sapiens
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240
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300
atgtcggagc acgtggagcc cgcagctccg gggcccgggc ccaacggcgg cggcggcggc
360

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ccggcccccg cgcgcggggc tcgcaccccc aatctcaacc ccaaccccct catcaacgtg
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 1980

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2090

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<210> 4914
<211> 529
<212> PRT
<213> Homo sapiens
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| Met | Ser | Glu | His | Val | Glu | Pro | Ala | Ala | Pro | Gly | Pro | Gly | Pro | Asn | Gly |
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| Gly | Gly | Gly | Gly | Pro | Ala | Pro | Ala | Arg | Gly | Pro | Arg | Thr | Pro | Asn | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asn | Pro | Asn | Pro | Leu | Ile | Asn | Val | Arg | Asp | Arg | Leu | Phe | His | Ala | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Phe | Phe | Lys | Met | Ala | Val | Thr | Tyr | Ser | Arg | Leu | Phe | Pro | Pro | Ala | Phe |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Arg | Leu | Phe | Glu | Phe | Phe | Val | Leu | Leu | Lys | Ala | Leu | Phe | Val | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Phe | Val | Leu | Ala | Tyr | Ile | His | Ile | Val | Phe | Ser | Arg | Ser | Pro | Ile | Asn |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Cys | Leu | Glu | His | Val | Arg | Asp | Lys | Trp | Pro | Arg | Glu | Gly | Ile | Leu | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Val | Glu | Val | Arg | His | Asn | Ser | Ser | Arg | Ala | Pro | Val | Phe | Leu | Gln | Phe |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Cys | Asp | Ser | Gly | Gly | Arg | Gly | Ser | Phe | Pro | Gly | Leu | Ala | Val | Glu | Pro |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gly | Ser | Asn | Leu | Asp | Met | Glu | Asp | Glu | Glu | Glu | Glu | Glu | Leu | Thr | Met |
| 145 | | | | 150 | | | | | | 155 | | | | | 160 |
| Glu | Met | Phe | Gly | Asn | Ser | Ser | Ile | Lys | Phe | Glu | Leu | Asp | Ile | Glu | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Lys | Val | Phe | Lys | Pro | Pro | Ser | Ser | Thr | Glu | Ala | Leu | Asn | Asp | Ser | Gln |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Glu | Phe | Pro | Phe | Pro | Glu | Thr | Pro | Thr | Lys | Val | Trp | Pro | Gln | Asp | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Tyr | Ile | Val | Glu | Tyr | Ser | Leu | Glu | Tyr | Gly | Phe | Leu | Arg | Leu | Ser | Gln |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Thr | Arg | Gln | Arg | Leu | Ser | Ile | Pro | Val | Met | Val | Val | Thr | Leu | Asp |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Pro | Thr | Arg | Asp | Gln | Cys | Phe | Gly | Asp | Arg | Phe | Ser | Arg | Leu | Leu | Leu |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Asp | Glu | Phe | Leu | Gly | Tyr | Asp | Asp | Ile | Leu | Met | Ser | Ser | Val | Lys | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Leu | Ala | Glu | Asn | Glu | Glu | Asn | Lys | Gly | Phe | Leu | Arg | Asn | Val | Val | Ser |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Gly | Glu | His | Tyr | Arg | Phe | Val | Ser | Met | Trp | Met | Ala | Arg | Thr | Ser | Tyr |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Leu | Ala | Ala | Phe | Ala | Ile | Met | Val | Ile | Phe | Thr | Leu | Ser | Val | Ser | Met |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Leu | Arg | Tyr | Ser | His | His | Gln | Ile | Phe | Val | Phe | Ile | Val | Asp | Leu |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Leu | Gln | Met | Leu | Glu | Met | Asn | Met | Ala | Ile | Ala | Phe | Pro | Ala | Ala | Pro |

340 345 350
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 370 375 380
 Trp Leu Ala Asp Gln Tyr Asp Ala Ile Cys Cys His Thr Ser Thr Ser
 385 390 395 400
 Lys Arg His Trp Leu Arg Phe Phe Tyr Leu Tyr His Phe Ala Phe Tyr
 405 410 415
 Ala Tyr His Tyr Arg Phe Asn Gly Gln Tyr Ser Ser Leu Ala Leu Val
 420 425 430
 Thr Ser Trp Leu Phe Ile Gln His Ser Met Ile Tyr Phe Phe His His
 435 440 445
 Tyr Glu Leu Pro Ala Ile Leu Gln Gln Val Arg Ile Gln Glu Met Leu
 450 455 460
 Leu Gln Ala Pro Pro Leu Gly Pro Gly Thr Pro Thr Ala Leu Pro Asp
 465 470 475 480
 Asp Met Asn Asn Asn Ser Gly Ala Pro Ala Thr Ala Pro Asp Ser Ala
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 Gly Gln Pro Pro Ala Leu Gly Pro Val Phe Glu Leu Val Ser Lys Glu
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 Arg Gly Trp Gly Ser Ala Glu Gly Ser Gly Gly Val Leu Val Gly Leu
 515 520 525
 Gln

<210> 4915

<211> 1157

<212> DNA

<213> Homo sapiens

<400> 4915

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 180
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 240
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<210> 4916

<211> 59

<212> PRT

<213> Homo sapiens

<400> 4916

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Gly | Ala | Ser | Arg | Lys | Arg | Lys | Glu | Val | Pro | Ser | Arg | Leu | Arg | Thr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Trp | Gly | Pro | Gly | Gly | Asp | Ala | Pro | Arg | Gly | Ser | Gly | Leu | Lys | Arg | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Arg | Gly | Pro | Arg | Gly | Pro | Ser | Ala | Ala | Pro | Arg | | | | | |
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<210> 4917

<211> 1544

<212> DNA

<213> Homo sapiens

<400> 4917

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<210> 4918

<211> 347

<212> PRT

<213> Homo sapiens

<400> 4918

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| Met | Gly | Pro | Ala | Ala | Arg | Pro | Ala | Leu | Arg | Ser | Pro | Pro | Pro | Pro | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Pro | Pro | Pro | Ser | Pro | Leu | Leu | Leu | Leu | Leu | Pro | Leu | Leu | Pro | Leu |
| | | | | 20 | | | | 25 | | | | | 30 | | |
| Trp | Leu | Gly | Leu | Ala | Gly | Pro | Gly | Ala | Ala | Ala | Asp | Gly | Ser | Glu | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Ala | Gly | Ala | Gly | Arg | Gly | Gly | Ala | Arg | Ala | Val | Arg | Val | Asp | Val |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Arg | Leu | Pro | Arg | Gln | Asp | Ala | Leu | Val | Leu | Glu | Gly | Val | Arg | Ile | Gly |


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              85              90
Asp Val Val Asp Ala Glu Gln Glu Ala Pro Ala Asp Gly Trp Ile Ala
              100              105              110
Val Ala Tyr Val Gly Lys Glu Gln Ala Ala Gln Phe His Gln Glu Asn
              115              120              125
Lys Gly Ser Gly Pro Gln Ala Tyr Pro Lys Ala Leu Val Gln Gln Met
              130              135              140
Arg Arg Ala Leu Phe Leu Gly Ala Ser Ala Leu Leu Leu Leu Ile Leu
145              150              155              160
Asn His Asn Val Val Arg Glu Leu Asp Ile Ser Gln Leu Leu Leu Arg
              165              170              175
Pro Val Ile Val Leu His Tyr Ser Ser Asn Val Thr Lys Leu Leu Asp
              180              185              190
Ala Leu Leu Gln Arg Thr Gln Ala Thr Ala Glu Ile Thr Ser Gly Glu
              195              200              205
Ser Leu Ser Ala Asn Ile Glu Trp Lys Leu Thr Leu Trp Thr Thr Cys
              210              215              220
Gly Leu Ser Lys Asp Gly Tyr Gly Gly Trp Gln Asp Leu Val Cys Leu
225              230              235              240
Gly Gly Ser Arg Ala Gln Glu Gln Lys Pro Leu Gln Gln Leu Trp Asn
              245              250              255
Ala Ile Leu Leu Val Ala Met Leu Leu Cys Thr Gly Leu Val Val Gln
              260              265              270
Ala Gln Arg Gln Ala Ser Arg Gln Ser Gln Arg Glu Leu Gly Gly Gln
              275              280              285
Val Asp Leu Phe Lys Arg Arg Val Val Arg Arg Leu Ala Ser Leu Lys
              290              295              300
Thr Arg Arg Cys Arg Leu Ser Arg Ala Ala Gln Gly Leu Pro Asp Pro
305              310              315              320
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<210> 4919

<211> 1362

<212> DNA

<213> Homo sapiens

<400> 4919

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180
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240
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300
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360

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gaagtatctc ctttaaagt caccagtgtc acaaattggag cacatcctga agccacttca
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 1362

<210> 4920

<211> 194

<212> PRT

<213> Homo sapiens

<400> 4920

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Val | Pro | Ala | Ile | Gln | Gln | Lys | Arg | Thr | Val | Ala | Phe | Leu | Asn | Gln |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Val | Val | His | Thr | Val | Gln | Phe | Leu | Asn | Arg | Phe | Ser | Thr | Val | Cys |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Glu | Glu | Lys | Leu | Ala | Asp | Leu | Ser | Leu | Arg | Ile | Gln | Gln | Ile | Glu | Thr |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Thr | Leu | Asn | Ile | Leu | Asp | Ala | Lys | Leu | Ser | Ser | Ile | Pro | Gly | Leu | Asp |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Asp | Val | Thr | Val | Glu | Val | Ser | Pro | Leu | Asn | Val | Thr | Ser | Val | Thr | Asn |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Gly | Ala | His | Pro | Glu | Ala | Thr | Ser | Glu | Gln | Pro | Gln | Gln | Asn | Ser | Thr |

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<400> 4921
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180
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300
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420
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480
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900
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1020

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<210> 4922

<211> 342

<212> PRT

<213> Homo sapiens

<400> 4922

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Glu | Glu | Asp | Glu | Val | Glu | Trp | Val | Val | Glu | Ser | Ile |
| 1 | | | 5 | | | | 10 | | | | | 15 | | |
| Ala | Gly | Leu | Leu | Arg | Gly | Pro | Asp | Trp | Ser | Ile | Pro | Ile | Leu | Asp |
| | | 20 | | | | | 25 | | | | | 30 | | Phe |
| Val | Glu | Gln | Lys | Cys | Glu | Val | Phe | Asp | Asp | Glu | Glu | Glu | Ser | Lys |
| | | 35 | | | | 40 | | | | | 45 | | | Leu |
| Thr | Tyr | Thr | Glu | Ile | His | Gln | Glu | Tyr | Lys | Glu | Leu | Val | Glu | Lys |
| | 50 | | | | 55 | | | | | 60 | | | | Leu |
| Leu | Glu | Gly | Tyr | Leu | Lys | Glu | Ile | Gly | Ile | Asn | Glu | Asp | Gln | Phe |
| 65 | | | | 70 | | | | | 75 | | | | | 80 |
| Glu | Ala | Cys | Thr | Ser | Pro | Leu | Ala | Lys | Thr | His | Thr | Ser | Gln | Ala |
| | | | 85 | | | | | 90 | | | | | 95 | Ile |
| Leu | Gln | Pro | Val | Leu | Ala | Ala | Glu | Asp | Phe | Thr | Ile | Phe | Lys | Ala |
| | | 100 | | | | | 105 | | | | | 110 | | Met |
| Met | Val | Gln | Lys | Asn | Ile | Glu | Met | Gln | Leu | Gln | Ala | Ile | Arg | Ile |
| | 115 | | | | | 120 | | | | | 125 | | | Ile |
| Gln | Glu | Arg | Asn | Gly | Val | Leu | Pro | Asp | Cys | Leu | Thr | Asp | Gly | Ser |
| | 130 | | | 135 | | | | | | 140 | | | | Asp |
| Val | Val | Ser | Asp | Leu | Glu | His | Glu | Glu | Met | Lys | Ile | Leu | Arg | Glu |
| 145 | | | | 150 | | | | 155 | | | | | | 160 |
| Leu | Arg | Lys | Ser | Lys | Glu | Glu | Tyr | Asp | Gln | Glu | Glu | Glu | Arg | Lys |
| | | | 165 | | | | | 170 | | | | | 175 | Arg |
| Lys | Lys | Gln | Leu | Ser | Glu | Ala | Lys | Thr | Glu | Glu | Pro | Thr | Val | His |
| | | 180 | | | | | 185 | | | | | 190 | | Ser |
| Ser | Glu | Ala | Ala | Ile | Met | Asn | Asn | Ser | Gln | Gly | Asp | Gly | Glu | His |
| | 195 | | | | | 200 | | | | | 205 | | | Phe |
| Ala | His | Pro | Pro | Ser | Glu | Val | Lys | Met | His | Phe | Ala | Asn | Gln | Ser |
| | 210 | | | | 215 | | | | | 220 | | | | Ile |
| Glu | Pro | Leu | Gly | Arg | Lys | Val | Glu | Arg | Ser | Glu | Thr | Ser | Ser | Leu |
| 225 | | | 230 | | | | | 235 | | | | | | 240 |
| Gln | Lys | Gly | Leu | Lys | Ile | Pro | Gly | Leu | Glu | His | Ala | Ser | Ile | Glu |
| | | 245 | | | | | | 250 | | | | | 255 | Gly |
| Pro | Ile | Ala | Asn | Leu | Ser | Val | Leu | Gly | Thr | Glu | Glu | Leu | Arg | Gln |
| | 260 | | | | | | 265 | | | | | 270 | | Arg |
| Glu | His | Tyr | Leu | Lys | Gln | Lys | Arg | Asp | Lys | Leu | Met | Ser | Met | Arg |
| | 275 | | | | | 280 | | | | | 285 | | | Lys |
| Asp | Met | Arg | Thr | Lys | Gln | Ile | Gln | Asn | Met | Glu | Gln | Lys | Gly | Lys |
| | | | | | | | | | | | | | | Pro |

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      290              295              300
Thr Gly Glu Val Glu Glu Met Thr Glu Lys Pro Glu Met Thr Ala Glu
305              310              315              320
Glu Lys Gln Thr Leu Leu Lys Arg Arg Leu Leu Ala Glu Lys Leu Lys
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Glu Glu Val Ile Asn Lys
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<210> 4923
 <211> 765
 <212> DNA
 <213> Homo sapiens

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120
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180
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240
gctgggggct ggcccccgac caaagccaag aactcagcct ccagttcttc atcgttagcc
300
ccgtctcag ggatcatcag gccatctggg gagaggtaa ccagcaggcc cagctggcgg
360
gcggccgcgg cgcctctgcc cgggggtccc gggggctcct cctcttctgc atcttcaagg
420
ctggatgccc ggaccacctg cccccaagcc cggccttgcc ctgccccctc cccgggctct
480
gtcgccgcgc actcgccctt cctgagtcct gcactcctcg tcggcgccct gcggccggtc
540
gatcccgagc cctcgcttcc ctgcttgccc gtcccaactc cgctcgggc ctcgggcggc
600
gccgcacctn ggagcgcggc cagctgggct cgcgagggtc tgccgagccg aaactacaac
660
tcccggcaga tttctcaagg ggaagataaa atgactaaga ggaagaagct gcggacctca
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765

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<210> 4924
 <211> 255
 <212> PRT
 <213> Homo sapiens

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      20      25      30
Ser Ala Ser Arg Ser Ser Ser Ala Ser Lys Ser Ser Ser Ser Val Pro
      35      40      45
Ser Ser Ser Ser Ser Ser Gly Ser Leu Met His Arg Leu Ala Ile Phe

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      50              55              60
Ser Met Ala Ser Ile Gly Lys Gly Pro Leu Pro Leu Ser Phe Ser Arg
65              70              75              80
Ala Gly Gly Trp Pro Thr Lys Ala Lys Asn Ser Ala Ser Ser Ser
      85              90              95
Ser Ser Leu Ala Pro Ser Ser Gly Ile Ile Arg Pro Ser Gly Glu Arg
      100              105              110
Ser Thr Ser Arg Pro Ser Trp Arg Ala Ala Ala Ala Pro Leu Pro Gly
      115              120              125
Gly Pro Gly Gly Pro Ser Ser Cys Ala Ser Ser Arg Leu Asp Ala Arg
      130              135              140
Thr Thr Cys Pro Gln Ala Arg Pro Cys Pro Ala Pro Ser Pro Gly Ser
145              150              155              160
Val Ala Ala His Ser Pro Phe Leu Ser Pro Ala Leu Leu Val Gly Ala
      165              170              175
Leu Arg Pro Val Asp Pro Glu Pro Ser Leu Pro Cys Leu Ala Val Pro
      180              185              190
Leu Pro Pro Arg Ala Ser Gly Ala Ala Ala Pro Xaa Ser Ala Ala Ser
      195              200              205
Trp Ala Arg Arg Gly Leu Pro Ser Arg Asn Tyr Asn Ser Arg Gln Ile
      210              215              220
Ser Gln Gly Glu Asp Lys Met Thr Lys Arg Lys Lys Leu Arg Thr Ser
225              230              235              240
Ala Pro Leu Met Arg Lys Gln Asp Leu Pro Ala Gly Ser Ser Val
      245              250              255

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<210> 4925

<211> 374

<212> DNA

<213> Homo sapiens

<400> 4925

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120
agtgatgagg ccgaggacgc tgagctctat gatgaccttt actgccacgc atgtgacaaa
180
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240
gtggccttgc taaaacaaca gctggaggag gaagaagaaa atttttcaag acctcaaatt
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374

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<210> 4926

<211> 124

<212> PRT

<213> Homo sapiens

<400> 4926

Ala Asn Leu Glu Lys Glu Leu Gln Glu Met Glu Ala Arg Tyr Glu Lys

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | | 5 | | 10 | | 15 | | | | | | | | | |
| Glu | Phe | Gly | Asp | Gly | Ser | Asp | Glu | Asn | Glu | Met | Glu | Glu | His | Glu | Leu |
| | | 20 | | | | 25 | | | | | | 30 | | | |
| Lys | Asp | Glu | Glu | Asp | Gly | Lys | Asp | Ser | Asp | Glu | Ala | Glu | Asp | Ala | Glu |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Leu | Tyr | Asp | Asp | Leu | Tyr | Cys | Pro | Ala | Cys | Asp | Lys | Ser | Phe | Lys | Thr |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Glu | Lys | Ala | Met | Lys | Asn | His | Glu | Lys | Ser | Lys | Lys | His | Arg | Glu | Met |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Val | Ala | Leu | Leu | Lys | Gln | Gln | Leu | Glu | Glu | Glu | Glu | Glu | Asn | Phe | Ser |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Arg | Pro | Gln | Ile | Asp | Glu | Asn | Pro | Leu | Asp | Asp | Asn | Ser | Glu | Glu | Glu |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Met | Glu | Asp | Ala | Pro | Lys | Gln | Lys | Leu | Ser | Lys | Lys | | | | |
| | | 115 | | | | | | 120 | | | | | | | |

<210> 4927

<211> 1649

<212> DNA

<213> Homo sapiens

<400> 4927

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240
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300
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360
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420
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480
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540
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600
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660
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720
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780
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840
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960

```

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 1080
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 1140
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 1200
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 1320
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 1380
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 1440
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<210> 4928

<211> 405

<212> PRT

<213> Homo sapiens

<400> 4928

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| Met | Ala | Ala | Val | Arg | Gln | Asp | Leu | Ala | Gln | Leu | Met | Asn | Ser | Ser | Gly |
| 1 | | | 5 | | | | | | 10 | | | | | 15 | |
| Ser | His | Lys | Asp | Leu | Ala | Gly | Lys | Tyr | Arg | Gln | Ile | Leu | Glu | Lys | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ile | Gln | Leu | Ser | Gly | Ala | Glu | Gln | Leu | Glu | Ala | Leu | Lys | Ala | Phe | Val |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Glu | Ala | Met | Val | Asn | Glu | Asn | Val | Ser | Leu | Val | Ile | Ser | Arg | Gln | Leu |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Leu | Thr | Asp | Phe | Cys | Thr | His | Leu | Pro | Asn | Leu | Pro | Asp | Ser | Thr | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Lys | Glu | Ile | Tyr | His | Phe | Thr | Leu | Glu | Lys | Ile | Gln | Pro | Arg | Val | Ile |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ser | Phe | Glu | Glu | Gln | Val | Ala | Ser | Ile | Arg | Gln | His | Leu | Ala | Ser | Ile |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Tyr | Glu | Lys | Glu | Glu | Asp | Trp | Arg | Asn | Ala | Ala | Gln | Val | Leu | Val | Gly |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Ile | Pro | Leu | Glu | Thr | Gly | Gln | Lys | Gln | Tyr | Asn | Val | Asp | Tyr | Lys | Leu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Glu | Thr | Tyr | Leu | Lys | Ile | Ala | Arg | Leu | Tyr | Leu | Glu | Asp | Asp | Asp | Pro |
| 145 | | | | 150 | | | | | | 155 | | | | | 160 |
| Val | Gln | Ala | Glu | Ala | Tyr | Ile | Asn | Arg | Ala | Ser | Leu | Leu | Gln | Asn | Glu |
| | | | | 165 | | | | 170 | | | | | | 175 | |
| Ser | Thr | Asn | Glu | Gln | Leu | Gln | Ile | His | Tyr | Lys | Val | Cys | Tyr | Ala | Arg |


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<211> 5907
<212> DNA
<213> Homo sapiens
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660
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<212> PRT

<213> Homo sapiens

<400> 4930

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| Met | Glu | His | Ile | Gln | Gly | Ala | Trp | Lys | Thr | Ile | Ser | Asn | Gly | Phe | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Lys | Asp | Ala | Val | Phe | Asp | Gly | Ser | Ser | Cys | Ile | Ser | Pro | Thr | Ile |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Val | Gln | Gln | Phe | Gly | Tyr | Gln | Arg | Arg | Ala | Ser | Asp | Asp | Gly | Lys | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Thr | Asp | Pro | Ser | Lys | Thr | Ser | Asn | Thr | Ile | Arg | Val | Phe | Leu | Pro | Asn |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Gln | Arg | Thr | Val | Val | Asn | Val | Arg | Asn | Gly | Met | Ser | Leu | His | Asp |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Cys | Leu | Met | Lys | Ala | Leu | Lys | Val | Arg | Gly | Leu | Gln | Pro | Glu | Cys | Cys |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Ala | Val | Phe | Arg | Leu | Leu | His | Glu | His | Lys | Gly | Lys | Lys | Ala | Arg | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Trp | Asn | Thr | Asp | Ala | Ala | Ser | Leu | Ile | Gly | Glu | Glu | Leu | Gln | Val |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Asp | Phe | Leu | Asp | His | Val | Pro | Leu | Thr | Thr | His | Asn | Phe | Ala | Arg | Lys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Thr | Phe | Leu | Lys | Leu | Ala | Phe | Cys | Asp | Ile | Cys | Gln | Lys | Phe | Leu | Leu |
| 145 | | | | 150 | | | | | | 155 | | | | 160 | |
| Asn | Gly | Phe | Arg | Cys | Gln | Thr | Cys | Gly | Tyr | Lys | Phe | His | Glu | His | Cys |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Ser | Thr | Lys | Val | Pro | Thr | Met | Cys | Val | Asp | Trp | Ser | Asn | Ile | Arg | Gln |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Leu | Leu | Leu | Phe | Pro | Asn | Ser | Thr | Ile | Gly | Asp | Ser | Gly | Val | Pro | Ala |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Leu | Pro | Ser | Leu | Thr | Met | Arg | Arg | Met | Arg | Glu | Ser | Val | Ser | Arg | Met |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Pro | Val | Ser | Ser | Gln | His | Arg | Tyr | Ser | Thr | Pro | His | Ala | Phe | Thr | Phe |

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          275          280          285
Ser Pro Ser Ala Leu Ser Ser Ser Pro Asn Asn Leu Ser Pro Thr Gly
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Trp Ser Gln Pro Lys Thr Pro Val Pro Ala Gln Arg Glu Arg Ala Pro
305          310          315          320
Val Ser Gly Thr Gln Glu Lys Asn Lys Ile Arg Pro Arg Gly Gln Arg
          325          330          335
Asp Ser Ser Tyr Tyr Trp Glu Ile Glu Ala Ser Glu Val Met Leu Ser
          340          345          350
Thr Arg Ile Gly Ser Gly Ser Phe Gly Thr Val Tyr Lys Gly Lys Trp
          355          360          365
His Gly Asp Val Ala Val Lys Ile Leu Lys Val Val Asp Pro Thr Pro
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Glu Gln Phe Gln Ala Phe Arg Asn Glu Val Ala Val Leu Arg Lys Thr
385          390          395          400
Arg His Val Asn Ile Leu Leu Phe Met Gly Tyr Met Thr Lys Asp Asn
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          420          425          430
Leu His Val Gln Glu Thr Lys Phe Gln Met Phe Gln Leu Ile Asp Ile
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          450          455          460
Ile His Arg Asp Met Lys Ser Asn Asn Ile Phe Leu His Glu Gly Leu
465          470          475          480
Thr Val Lys Ile Gly Asp Phe Gly Leu Ala Thr Val Lys Ser Arg Trp
          485          490          495
Ser Gly Ser Gln Gln Val Glu Gln Pro Thr Gly Ser Val Leu Trp Met
          500          505          510
Ala Pro Glu Val Ile Arg Met Gln Asp Asn Asn Pro Phe Ser Phe Gln
          515          520          525
Ser Asp Val Tyr Ser Tyr Gly Ile Val Leu Tyr Glu Leu Met Thr Gly
          530          535          540
Glu Leu Pro Tyr Ser His Ile Asn Asn Arg Asp Gln Ile Ile Phe Met
545          550          555          560
Val Gly Arg Gly Tyr Ala Ser Pro Asp Leu Ser Lys Leu Tyr Lys Asn
          565          570          575
Cys Pro Lys Ala Met Lys Arg Leu Val Ala Asp Cys Val Lys Lys Val
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Lys Glu Glu Arg Pro Leu Phe Pro Gln Ile Leu Ser Ser Ile Glu Leu
          595          600          605
Leu Gln His Ser Leu Pro Lys Ile Asn Arg Ser Ala Ser Glu Pro Ser
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 Thr Gln Gly Thr Arg Lys Ile Leu Tyr Pro Tyr Ala His Leu Ser Ala
 35 40 45
 Glu Asp Phe Asn Ile Tyr Gly His Gly Gly Arg Gln Phe Trp Leu Val
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<213> Homo sapiens

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| 1 | | | 5 | | | | | 10 | | | | | | 15 | |
| Thr | Phe | Arg | Pro | Thr | Met | Glu | Glu | Phe | Lys | Asp | Phe | Asn | Lys | Tyr | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Tyr | Ile | Glu | Ser | Gln | Gly | Ala | His | Arg | Ala | Gly | Leu | Ala | Lys | Ile |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ile | Pro | Pro | Lys | Glu | Trp | Lys | Pro | Arg | Gln | Thr | Tyr | Asp | Asp | Ile | Asp |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Asp | Val | Val | Ile | Pro | Ala | Pro | Ile | Gln | Gln | Val | Val | Thr | Gly | Gln | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Gly | Leu | Phe | Thr | Gln | Tyr | Asn | Ile | Gln | Lys | Lys | Ala | Met | Thr | Val | Gly |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Glu | Tyr | Arg | Arg | Leu | Ala | Asn | Ser | Glu | Lys | Tyr | Cys | Thr | Pro | Arg | His |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Gln | Asp | Phe | Asp | Asp | Leu | Glu | Arg | Lys | Tyr | Trp | Lys | Asn | Leu | Thr | Phe |
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| Val | Ser | Pro | Ile | Tyr | Gly | Ala | Asp | Ile | Ser | Gly | Ser | Leu | Tyr | Asp | Asp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Val | Ser | Met | Arg | Leu | Arg | Gly | Arg | Thr | Gly | Thr | Ser | Phe | Leu | Val | Gly |
| 145 | | | | 150 | | | | | | 155 | | | | 160 | |
| Gly | Gly | Gly | Arg | Ala | Leu | Asn | Gly | Thr | Leu | Pro | Trp | Gln | Met | Lys | Leu |
| | | | 165 | | | | | 170 | | | | | | 175 | |
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<211> 337

<212> PRT

<213> Homo sapiens

<400> 4936

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asn | Phe | Asp | Ser | Val | Glu | Leu | His | Gly | Thr | Met | Lys | Ser | Tyr | Phe | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Leu | Leu | Cys | Val | Cys | Trp | Ser | Pro | Asp | Gly | Lys | Tyr | Ile | Val | Thr |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Gly | Glu | Asp | Asp | Leu | Val | Thr | Val | Trp | Ser | Phe | Val | Asp | Cys | Arg |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Val | Ile | Ala | Arg | Gly | His | Gly | His | Lys | Ser | Trp | Val | Ser | Val | Val | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Phe | Asp | Pro | Tyr | Thr | Thr | Ser | Val | Glu | Glu | Gly | Asp | Pro | Met | Glu | Phe |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ser | Gly | Ser | Asp | Glu | Asp | Phe | Gln | Asp | Leu | Leu | His | Phe | Gly | Glu | Ile |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Glu | Gln | Ile | Val | His | Ser | Pro | Gly | Ser | Pro | Asn | Gly | Thr | Leu | Gln | Thr |
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| Ala | Ala | Pro | Ser | Val | Thr | Tyr | Arg | Phe | Gly | Ser | Val | Gly | Gln | Asp | Thr |
| | | 130 | | | | | 135 | | | | | 140 | | | |
| Gln | Leu | Cys | Leu | Trp | Asp | Leu | Thr | Glu | Asp | Ile | Leu | Phe | Pro | His | Gln |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Pro | Leu | Ser | Arg | Ala | Arg | Thr | His | Thr | Asn | Val | Met | Asn | Ala | Thr | Ser |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Pro | Pro | Ala | Gly | Ser | Asn | Gly | Asn | Ser | Val | Thr | Thr | Pro | Gly | Asn | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Val | Pro | Pro | Pro | Leu | Pro | Arg | Ser | Asn | Ser | Leu | Pro | His | Ser | Ala | Val |
| | | | 195 | | | | 200 | | | | | 205 | | | |
| Ser | Asn | Ala | Gly | Ser | Lys | Ser | Ser | Val | Met | Asp | Gly | Ala | Ile | Ala | Ser |
| | | | 210 | | | 215 | | | | | 220 | | | | |
| Gly | Val | Ser | Lys | Phe | Ala | Thr | Leu | Ser | Leu | His | Asp | Arg | Lys | Glu | Arg |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| His | His | Glu | Lys | Asp | His | Lys | Arg | Asn | His | Ser | Met | Gly | His | Ile | Ser |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Ser | Lys | Ser | Ser | Asp | Lys | Leu | Asn | Leu | Val | Thr | Lys | Thr | Lys | Thr | Asp |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Pro | Ala | Lys | Thr | Leu | Gly | Thr | Pro | Leu | Cys | Pro | Arg | Met | Glu | Asp | Val |
| | | | 275 | | | | 280 | | | | | 285 | | | |
| Pro | Leu | Leu | Glu | Pro | Leu | Ile | Cys | Lys | Lys | Ile | Ala | His | Glu | Arg | Leu |
| | | | 290 | | | 295 | | | | | 300 | | | | |
| Thr | Val | Leu | Ile | Phe | Leu | Glu | Asp | Cys | Ile | Val | Thr | Ala | Cys | Gln | Glu |

| | | | | | | | | | | | | | | | | |
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| Ser | Val | Val | Leu | Ile | Cys | Arg | Ala | Ser | Ala | Leu | Ser | Arg | Tyr | Leu | Val | |
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Val | Ala | Glu | Pro | Trp | Pro | Thr | Arg | Ser | Gln | Gly | Gly | Arg | Gln | Pro | Gly | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Cys | Thr | Leu | Thr | Leu | Gly | Val | Cys | Ala | Asp | Gly | Arg | Trp | Glu | Glu | Thr | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Asp | Gln | Gln | Glu | Val | Phe | Ser | Ser | Gly | Val | Ala | Ser | Pro | Thr | Leu | Asn | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Leu | Arg | Ala | Ser | Ser | Ser | Pro | Ala | Lys | Ala | Arg | Ala | Leu | Ser | Arg | Pro | |

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<211> 730

<212> DNA

<213> Homo sapiens

<400> 4939

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<210> 4940

<211> 158

<212> PRT

<213> Homo sapiens

<400> 4940

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 35 40 45
 Asp Ser Lys Ala Ser Thr Trp Leu Pro Leu Pro Val Thr Ser Ser Ser
 50 55 60
 Ala Glu Pro Ser Arg Pro Asn Ser Cys Pro Pro Ala Cys Ser Pro Ala
 65 70 75 80
 Ala Ala Ser Ser Phe Ser Phe Glu Ser Gln Pro Cys Pro Ser Ala Pro

| | | | | | |
|---|-----|-----|-----|-----|-----|
| | 85 | | 90 | | 95 |
| Ser Lys Ala Ser Pro Ala Pro Ala Ala Leu Met Cys Gly Thr Thr Ser | | | | | |
| | 100 | | 105 | | 110 |
| Pro Pro Ile Ile Pro Ala Ala Thr Glu Pro Val Cys Ala Ser Ser Arg | | | | | |
| | 115 | | 120 | | 125 |
| Ser Gly Arg Pro Thr Ala Thr Ala Cys Ser Leu Gln Pro Leu Leu Asp | | | | | |
| | 130 | | 135 | | 140 |
| Val Leu Ser Ala Ser Ala Ser Ser Ser Ser Val Ser Leu Ala | | | | | |
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<210> 4941

<211> 1718

<212> DNA

<213> Homo sapiens

<400> 4941

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1140

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<210> 4942

<211> 469

<212> PRT

<213> Homo sapiens

<400> 4942

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Arg | Val | Arg | Arg | Ile | Tyr | Pro | Gln | Leu | Leu | Leu | Ala | Leu | Leu |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Ile | Gln | Val | His | Tyr | His | Ile | Gly | Leu | Asn | Leu | Pro | Gly | Cys | Val | Ala |
| | | 20 | | | | | | 25 | | | | 30 | | | |
| Pro | Pro | Lys | Asp | Thr | Lys | Lys | Gly | Ala | Gln | Pro | Ser | Pro | Phe | Val | Pro |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Val | Arg | Trp | Val | Val | Lys | Val | Val | Lys | Thr | Leu | Leu | Leu | Arg | Met | Gly |
| | | 50 | | | | 55 | | | | 60 | | | | | |
| Cys | Ser | Tyr | Glu | Thr | Thr | Phe | Leu | Glu | Asp | Gln | Gly | Gly | Trp | Glu | Leu |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Met | Glu | Gln | Val | Glu | Ser | His | His | Arg | Gly | Val | Ala | Leu | Leu | Ala | Arg |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Ala | Met | Val | Gln | Tyr | Ser | Cys | Gln | Glu | Leu | Cys | Arg | Ile | Leu | Tyr | Leu |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Leu | Ile | Pro | Leu | Leu | Glu | Arg | Gly | Asp | Glu | Lys | His | Arg | Ile | Thr | Ala |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Thr | Ala | Phe | Phe | Val | Glu | Leu | Gln | Met | Glu | Gln | Val | Arg | Arg | Ile | |
| | 130 | | | | | 135 | | | | 140 | | | | | |
| Pro | Glu | Glu | Tyr | Ser | Leu | Gly | Arg | Met | Ala | Glu | Gly | Leu | Ser | His | His |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Asp | Pro | Ile | Met | Lys | Val | Leu | Ser | Ile | Arg | Gly | Leu | Val | Ile | Leu | Ala |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Arg | Arg | Ser | Glu | Lys | Thr | Ala | Lys | Val | Lys | Ala | Leu | Leu | Pro | Ser | Met |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Val | Lys | Gly | Leu | Lys | Asn | Met | Asp | Gly | Met | Leu | Val | Val | Glu | Ala | Val |
| | | 195 | | | | 200 | | | | | 205 | | | | |
| His | Asn | Leu | Lys | Ala | Val | Phe | Lys | Gly | Arg | Asp | Gln | Lys | Leu | Met | Asp |

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      245              250              255
Val Val Gln Lys Leu Arg Ala Pro Arg Thr Gln Ala Met Glu Glu Gln
      260              265              270
Leu Val Ser Thr Leu Val Pro Leu Leu Leu Thr Met Gln Glu Gly Asn
      275              280              285
Ser Lys Val Ser Gln Lys Cys Val Lys Thr Leu Leu Arg Cys Ser Tyr
      290              295              300
Phe Met Ala Trp Glu Leu Pro Lys Arg Ala Tyr Ser Arg Lys Pro Trp
305              310              315              320
Asp Asn Gln Gln Gln Thr Val Ala Lys Ile Cys Lys Cys Leu Val Asn
      325              330              335
Thr His Arg Asp Ser Ala Phe Ile Phe Leu Ser Gln Ser Leu Glu Tyr
      340              345              350
Ala Lys Asn Ser Arg Ala Ser Leu Arg Lys Cys Ser Val Met Phe Ile
      355              360              365
Gly Ser Leu Val Pro Cys Met Glu Ser Ile Met Thr Glu Asp Arg Leu
      370              375              380
Asn Glu Val Lys Ala Ala Leu Asp Asn Leu Arg His Asp Pro Glu Ala
385              390              395              400
Ser Val Cys Ile Tyr Ala Ala Gln Val Gln Asp His Ile Leu Ala Ser
      405              410              415
Cys Trp Gln Asn Ser Trp Leu Pro His Gly Asn Ser Trp Val Cys Tyr
      420              425              430
Ser Ala Thr Thr His Arg Trp Ser Pro Ser Cys Glu Asn Leu Pro Thr
      435              440              445
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Met Ser Leu Lys Lys
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<210> 4943

<211> 1020

<212> DNA

<213> Homo sapiens

<400> 4943

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180
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420

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 780
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<210> 4944

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4944

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| Met | Ser | Ser | Leu | Ser | Glu | Tyr | Ala | Phe | Arg | Met | Ser | Arg | Leu | Ser | Ala |
| 1 | | | 5 | | | | | | 10 | | | | 15 | | |
| Arg | Leu | Phe | Gly | Glu | Val | Thr | Arg | Pro | Thr | Asn | Ser | Lys | Ser | Met | Lys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Val | Lys | Leu | Phe | Ser | Glu | Leu | Pro | Leu | Ala | Lys | Lys | Lys | Glu | Thr |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Tyr | Asp | Trp | Tyr | Pro | Asn | His | His | Thr | Tyr | Ala | Glu | Leu | Met | Gln | Thr |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Leu | Arg | Phe | Leu | Gly | Leu | Tyr | Arg | Asp | Glu | His | Gln | Asp | Phe | Met | Asp |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Glu | Gln | Lys | Arg | Leu | Lys | Lys | Leu | Arg | Gly | Lys | Glu | Lys | Pro | Lys | Lys |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Gly | Glu | Gly | Lys | Arg | Ala | Ala | Lys | Arg | Lys | | | | | | |
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<210> 4945

<211> 1792

<212> DNA

<213> Homo sapiens

<400> 4945

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300
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 <211> 197
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Tyr Ala Ser Phe Ala Leu Ile Met Leu Trp Pro Lys Leu Glu Leu Ser
 50 55 60
 Leu Gln Tyr Asp Met Ala Leu Ala Thr Leu Arg Glu Asp Leu Thr Arg
 65 70 75 80
 Arg Arg Tyr Leu Met Ser Gly Val Met Ala Pro Val Lys Arg Arg Asn
 85 90 95
 Val Ile Pro His Asp Ile Gly Asp Pro Asp Asp Glu Pro Trp Leu Arg
 100 105 110
 Val Asn Ala Tyr Leu Ile His Asp Thr Ala Asp Trp Lys Asp Leu Asn
 115 120 125
 Leu Lys Phe Val Leu Gln Val Tyr Arg Asp Tyr Tyr Leu Thr Gly Asp
 130 135 140
 Gln Asn Phe Leu Lys Asp Met Trp Pro Val Cys Leu Val Arg Asp Ala
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 <211> 2060
 <212> DNA
 <213> Homo sapiens

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 420

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<210> 4948

<211> 127

<212> PRT

<213> Homo sapiens

<400> 4948

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| Ala | Glu | Leu | Thr | Pro | Leu | Pro | Phe | Ser | Leu | Gln | Ala | Leu | Ser | Ile | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Met | Leu | Pro | His | Asn | Ile | Pro | Ser | Ser | Leu | Ser | Leu | Leu | Thr | Ser | Met |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Asp | Asp | Met | Trp | His | Tyr | Ala | Gly | Asp | Gln | Ser | Thr | Asp | Phe | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Trp | Tyr | Thr | Arg | Arg | Ala | Met | Leu | Ala | Ala | Ile | Tyr | Asn | Thr | Thr | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Val | Met | Met | Gln | Asp | Ser | Ser | Pro | Asp | Phe | Glu | Asp | Thr | Trp | Arg |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Phe | Leu | Glu | Asn | Arg | Val | Asn | Asp | Ala | Met | Asn | Met | Gly | His | Thr | Ala |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Lys | Gln | Val | Lys | Ser | Thr | Gly | Glu | Ala | Leu | Val | Gln | Gly | Leu | Met | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Ala | Val | Thr | Leu | Lys | Asn | Leu | Thr | Xaa | Leu | Asn | Gln | Arg | Arg | |
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<211> 1259

<212> DNA

<213> Homo sapiens

<400> 4949

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 780
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 900
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 1080
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 1140
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<210> 4950

<211> 318

<212> PRT

<213> Homo sapiens

<400> 4950

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Pro | Ala | Cys | Pro | Pro | Gly | Tyr | Leu | Thr | Ala | Pro | Cys | His | Arg | Cys |
| 1 | | | 5 | | | | | | 10 | | | | | 15 | |
| Arg | Gly | Leu | Val | Asp | Lys | Phe | Asn | Gln | Gly | Met | Val | Asp | Thr | Ala | Lys |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Lys | Asn | Phe | Gly | Gly | Gly | Asn | Thr | Ala | Trp | Glu | Glu | Lys | Thr | Leu | Ser |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Lys | Tyr | Glu | Ser | Ser | Glu | Ile | Arg | Leu | Leu | Glu | Ile | Leu | Glu | Gly | Leu |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Cys | Glu | Ser | Ser | Asp | Phe | Glu | Cys | Asn | Gln | Met | Leu | Glu | Ala | Gln | Glu |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Glu | His | Leu | Glu | Ala | Trp | Trp | Leu | Gln | Leu | Lys | Ser | Glu | Tyr | Pro | Asp |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Leu | Phe | Glu | Trp | Phe | Cys | Val | Lys | Thr | Leu | Lys | Val | Cys | Cys | Ser | Pro |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Gly | Thr | Tyr | Gly | Pro | Asp | Cys | Leu | Ala | Cys | Gln | Gly | Gly | Ser | Gln | Arg |
| | 115 | | | | | 120 | | | | | | 125 | | | |
| Pro | Cys | Ser | Gly | Asn | Gly | His | Cys | Ser | Gly | Asp | Gly | Ser | Arg | Gln | Gly |
| | 130 | | | | 135 | | | | | 140 | | | | | |
| Asp | Gly | Ser | Cys | Arg | Cys | His | Met | Gly | Tyr | Gln | Gly | Pro | Leu | Cys | Thr |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Asp | Cys | Met | Asp | Gly | Tyr | Phe | Ser | Ser | Leu | Arg | Asn | Glu | Thr | His | Ser |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Ile | Cys | Thr | Ala | Cys | Asp | Glu | Ser | Cys | Lys | Thr | Cys | Ser | Gly | Leu | Thr |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Asn | Arg | Asp | Cys | Gly | Glu | Cys | Glu | Val | Gly | Trp | Val | Leu | Asp | Glu | Gly |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Ala | Cys | Val | Asp | Val | Asp | Glu | Cys | Ala | Ala | Glu | Pro | Pro | Pro | Cys | Ser |

| | | |
|---|-----|-----|
| 210 | 215 | 220 |
| Ala Ala Gln Phe Cys Lys Asn Ala Asn Gly Ser Tyr Thr Cys Glu Glu | | |
| 225 | 230 | 235 |
| Cys Asp Ser Ser Cys Val Gly Cys Thr Gly Glu Gly Pro Gly Asn Cys | | 240 |
| | 245 | 250 |
| Lys Glu Cys Ile Ser Gly Tyr Ala Arg Glu His Gly Gln Cys Ala Asp | | 255 |
| | 260 | 265 |
| Val Asp Glu Cys Ser Leu Ala Glu Lys Thr Cys Val Arg Lys Asn Glu | | 270 |
| | 275 | 280 |
| Asn Cys Tyr Asn Thr Pro Gly Ser Tyr Val Cys Val Cys Pro Asp Gly | | 285 |
| | 290 | 300 |
| Phe Glu Glu Xaa Gly Arg Cys Leu Cys Ala Ala Gly Arg Gly | | |
| 305 | 310 | 315 |

<210> 4951

<211> 1835

<212> DNA

<213> Homo sapiens

<400> 4951

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180
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240
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300
ccgcgtgcct tccatgcttc agctgtgggg ctaaggtctt cagatgagca gaagcagcag
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420
gagtcttctc attcaccccc caggtataca gaccagggcg gcgaggagga ggaggactat
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540
cacgggtgga cagcagaggc gattgcagaa ggagcccagt ctctgggtct ctccagtgca
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660
aatacccggc tcacacgtgt gctagaagag gagcagaagc tggtagagtt gggccaggcg
720
gagaagagga agacagacca gttcctgagg gatgcagtg aaaccagact gagaatgctg
780
atcccatata ttgagcactg gcccggggcc ctcagcatcc tcatgctccc tcacaacac
840
ccgtccagcc tgagcctgct caccagcatg gtggatgaca tgtggcatta cgctggggac
900
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960
acagagctgg tgatgatgca ggactcctct ccagactttg aggacacttg gcgcttctct
1020

```

gaaaaccggg ttaatgatgc aatgaacatg ggccacactg ccaagcaggt aaagtccaca
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 1140
 ctaaaccagc gtcggtgaga ggaaggggta taagctacaa tgcctagaag agaattgagcg
 1200
 gacagattga aagagctttg aaaagtataa ggtgccatcc acataacctg gtgttcacga
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 1835

<210> 4952

<211> 318

<212> PRT

<213> Homo sapiens

<400> 4952

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Ala | Val | Ser | Gly | Ala | Leu | Gly | Arg | Ala | Gly | Trp | Arg |
| 1 | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Leu | Gln | Leu | Arg | Cys | Leu | Pro | Val | Ala | Arg | Cys | Arg | Gln | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | Leu |
| Val | Pro | Arg | Ala | Phe | His | Ala | Ser | Ala | Val | Gly | Leu | Arg | Ser | Ser |
| | | | 35 | | | | 40 | | | | | 45 | | Asp |
| Glu | Gln | Lys | Gln | Gln | Pro | Pro | Asn | Ser | Phe | Ser | Gln | Gln | His | Ser |
| | | | 50 | | | | 55 | | | | 60 | | | Glu |
| Thr | Gln | Gly | Ala | Glu | Lys | Pro | Asp | Pro | Glu | Ser | Ser | His | Ser | Pro |
| 65 | | | | | 70 | | | | 75 | | | | | 80 |
| Arg | Tyr | Thr | Asp | Gln | Gly | Gly | Glu | Glu | Glu | Asp | Tyr | Glu | Ser | Glu |
| | | | 85 | | | | | 90 | | | | 95 | | |
| Glu | Gln | Leu | Gln | His | Arg | Ile | Leu | Thr | Ala | Ala | Leu | Glu | Phe | Val |
| | | | 100 | | | | 105 | | | | | 110 | | Pro |
| Ala | His | Gly | Trp | Thr | Ala | Glu | Ala | Ile | Ala | Glu | Gly | Ala | Gln | Ser |
| | | | 115 | | | | 120 | | | | | 125 | | Leu |
| Gly | Leu | Ser | Ser | Ala | Ala | Ala | Ser | Met | Phe | Gly | Arg | Met | Gly | Ser |
| | | | 130 | | | 135 | | | | | 140 | | | Glu |
| Leu | Ile | Leu | His | Phe | Val | Thr | Gln | Cys | Asn | Thr | Arg | Leu | Thr | Arg |

```

145          150          155          160
Leu Glu Glu Glu Gln Lys Leu Val Gln Leu Gly Gln Ala Glu Lys Arg
          165          170          175
Lys Thr Asp Gln Phe Leu Arg Asp Ala Val Glu Thr Arg Leu Arg Met
          180          185          190
Leu Ile Pro Tyr Ile Glu His Trp Pro Arg Ala Leu Ser Ile Leu Met
          195          200          205
Leu Pro His Asn Ile Pro Ser Ser Leu Ser Leu Leu Thr Ser Met Val
          210          215          220
Asp Asp Met Trp His Tyr Ala Gly Asp Gln Ser Thr Asp Phe Asn Trp
225          230          235          240
Tyr Thr Arg Arg Ala Met Leu Ala Ala Ile Tyr Asn Thr Thr Glu Leu
          245          250          255
Val Met Met Gln Asp Ser Ser Pro Asp Phe Glu Asp Thr Trp Arg Phe
          260          265          270
Leu Glu Asn Arg Val Asn Asp Ala Met Asn Met Gly His Thr Ala Lys
          275          280          285
Gln Val Lys Ser Thr Gly Glu Ala Leu Val Gln Gly Leu Met Gly Ala
          290          295          300
Ala Val Thr Leu Lys Asn Leu Thr Gly Leu Asn Gln Arg Arg
305          310          315

```

<210> 4953

<211> 355

<212> DNA

<213> Homo sapiens

<400> 4953

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120
ggtgccccct ggtggcagct tgaaggaagg acgggcagtg ggtcgcagcc agcggggacc
180
taccgccgaa aacgcacata aaagctggaa tcagcttggt acagctgcag gtccctctcg
240
tccgatttgg atagaccctc ttgggaccca ctgcaccagg gaacccccaaa tgcagctcag
300
cagcatggga ggagccctgt ctgctggggg tgtctgggat cgtcggagag aggct
355

```

<210> 4954

<211> 114

<212> PRT

<213> Homo sapiens

<400> 4954

```

Met Ala Gly Gly Arg Gln Asp Arg Arg Ala Gln Ala Trp Thr Pro Leu
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Ser Ala Trp Gly Cys Leu Ala Ala Ser Pro Val Leu Gly Ala Gly Ile
          20          25          30
Thr Trp Pro Arg Val Pro Pro Gly Gly Ser Leu Lys Glu Gly Arg Ala
          35          40          45
Val Gly Arg Ser Gln Arg Gly Pro Thr Pro Gln Asn Ala His Lys Ser

```



```

      50              55              60
Trp Asn Gln Leu Val Thr Ala Ala Gly Pro Ser Arg Pro Ile Trp Ile
65              70              75              80
Asp Pro Leu Gly Thr His Cys Thr Arg Glu Pro Gln Met Gln Leu Ser
      85              90              95
Ser Met Gly Gly Ala Leu Ser Ala Gly Gly Val Trp Asp Arg Arg Arg
      100              105              110
Glu Ala

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<210> 4955

<211> 364

<212> DNA

<213> Homo sapiens

<400> 4955

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aactgcaaga caggggtggcc ggggacacca gcctccgccc ttctgtgaca taaggacaag
120
agctcagcct gccaggaac aactctgggc aagagatgtg gaaagaaaga gctcangggg
180
gggcacgcat ggcacacctg ggggacatct gagggcaccc ccaccacta ttctccctc
240
caaggtggcc tctgagtgtg aaggcagggg gaagcagaca cctgccctc actctccctc
300
cctaccacat agctaccggg tggggggcgt ccctgggatg attcctgagg gcaggatcca
360
gggg
364

```

<210> 4956

<211> 114

<212> PRT

<213> Homo sapiens

<400> 4956

```

Met Gly Thr Glu His Leu Gly Leu Arg Pro Glu Glu Gln Thr Ala Arg
  1              5              10              15
Gln Gly Gly Arg Gly His Gln Pro Pro Pro Phe Cys Asp Ile Arg Thr
      20              25              30
Arg Ala Gln Pro Ala Gln Glu Gln Leu Trp Ala Arg Asp Val Glu Arg
      35              40              45
Lys Ser Ser Xaa Gly Gly Thr His Gly Ile Leu Gly Gly His Leu Arg
      50              55              60
Ala Pro Pro Pro Thr Ile Pro Pro Ser Lys Val Ala Ser Glu Cys Glu
      65              70              75              80
Gly Arg Gly Lys Gln Thr Pro Ala Pro His Ser Pro Ser Leu Pro His
      85              90              95
Ser Tyr Arg Val Gly Gly Val Pro Gly Met Ile Pro Glu Gly Arg Ile
      100              105              110
Gln Gly

```

<210> 4957
 <211> 872
 <212> DNA
 <213> Homo sapiens

<400> 4957
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 120
 tcttgacaag actgtacagg gcttctcacc atacacaaac cctccacagc ccacggctcc
 180
 aaccacagc acctcctgca gtcctggagg gaaaaggagc agtaacatga agtgtctgaa
 240
 gatccatttc acctcttttc catgtgaatc atgacgcttt caatgcattt cttgacagga
 300
 ttctattttg aaagaatgat gctcaatctg taccttttat gcttcttggt tcttctccat
 360
 caataatatg tcagtcaact gcttgtcaga gacacttagc tgctgacagg tcttcataac
 420
 ctgactcagg taaactgcca agagatgctt gcacaggatg ctgtcactct tccgtagcac
 480
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 540
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 660
 cgataacaga tattcatcag gaattcggtc ccgtacttcg cgcgctctcc tgcaccgccg
 720
 ccgccatctc gtcaggagc tcttcacaa ccgccggcaa ctacggccat cgcgccgcag
 780
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<210> 4958
 <211> 51
 <212> PRT
 <213> Homo sapiens

<400> 4958
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 Pro Pro Pro Pro Ser Arg Ser Gly Ala Pro Pro Gln Pro Pro Ala Thr
 20 25 30
 Thr Ala Ile Ala Pro Gln Asp Thr Pro Ser Thr Thr Arg Thr Ala Arg
 35 40 45
 Arg Ser Ser
 50

<210> 4959
 <211> 449

<212> DNA

<213> Homo sapiens

<400> 4959

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120
gcagggataa agaggagagc tggcatctgg agtcatgac tgtctgagag gcagtgcctc
180
cggccaccgt aggatggagg ccagcttcca gccctggctg atgggggaga agcagcgaat
240
tctccagatg tggtatggca gacctttgga agattcactc ggctccact taaccttgtg
300
agaccaaagg ccacagcccc atgtgttctg cgtgctgttg aacatgtttg tatttcattg
360
gcgtggatga taatttggtt gaaaggagag atggtcacca gtggactcag tttaggaagg
420
cacaaaggtc aaccttttcc gtttctaga
449

```

<210> 4960

<211> 115

<212> PRT

<213> Homo sapiens

<400> 4960

```

Met Phe Asn Ser Thr Gln Asn Thr Trp Gly Cys Gly Leu Trp Ser His
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Lys Val Lys Trp Arg Pro Ser Glu Ser Ser Lys Gly Leu Pro Tyr His
20      25      30
Ile Trp Arg Ile Arg Cys Phe Ser Pro Ile Ser Gln Gly Trp Lys Leu
35      40      45
Ala Ser Ile Leu Arg Trp Pro Glu Ala Leu Pro Leu Arg Gln Ile Met
50      55      60
Thr Pro Asp Ala Ser Ser Pro Leu Tyr Pro Cys His Met Glu Gly Pro
65      70      75      80
Lys His Leu Ala Leu Asn Cys Lys Trp Lys Pro Pro Gln Pro Leu His
85      90      95
Gln Pro Pro Ala Lys Glu Thr Thr Thr Thr Ile Cys Ile Pro Ser Leu
100      105      110
Asp Thr Arg
115

```

<210> 4961

<211> 4737

<212> DNA

<213> Homo sapiens

<400> 4961

```

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120

```

tccaagaaca gcaagcgtgc ccgggagaag cgcgacagcc gcaacatgga agtacaggtc
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accaggaga tgcgcaacgt cagtataggc atgggcagca gtgacgagtg gtctgatgtt
240
caagacatta ttgactccac gccagagctg gacatgtgtc cagagaccgc cctggaccgc
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<210> 4962

<211> 1069

<212> PRT

<213> Homo sapiens

<400> 4962

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| | 20 | 25 | 30 |
| Pro Leu Gly Asp Tyr Gly Val Gly Ser Lys Asn Ser Lys Arg Ala Arg | | | |
| | 35 | 40 | 45 |
| Glu Lys Arg Asp Ser Arg Asn Met Glu Val Gln Val Thr Gln Glu Met | | | |
| | 50 | 55 | 60 |
| Arg Asn Val Ser Ile Gly Met Gly Ser Ser Asp Glu Trp Ser Asp Val | | | |
| | 65 | 70 | 75 |
| Gln Asp Ile Ile Asp Ser Thr Pro Glu Leu Asp Met Cys Pro Glu Thr | | | |
| | 85 | 90 | 95 |
| Arg Leu Asp Arg Thr Gly Ser Ser Pro Thr Gln Gly Ile Val Asn Lys | | | |
| | 100 | 105 | 110 |
| Ala Phe Gly Ile Asn Thr Asp Ser Leu Tyr His Glu Leu Ser Thr Ala | | | |
| | 115 | 120 | 125 |
| Gly Ser Glu Val Ile Gly Asp Val Asp Glu Gly Ala Asp Leu Leu Gly | | | |
| | 130 | 135 | 140 |
| Glu Phe Ser Gly Met Gly Lys Glu Val Gly Asn Leu Leu Leu Glu Asn | | | |
| | 145 | 150 | 155 |
| Ser Gln Leu Leu Glu Thr Lys Asn Ala Leu Asn Val Val Lys Asn Asp | | | |
| | 165 | 170 | 175 |
| Leu Ile Ala Lys Val Asp Gln Leu Ser Gly Glu Gln Glu Val Leu Arg | | | |
| | 180 | 185 | 190 |
| Gly Glu Leu Glu Ala Ala Lys Gln Ala Lys Val Lys Leu Glu Asn Arg | | | |
| | 195 | 200 | 205 |
| Ile Lys Glu Leu Glu Glu Glu Leu Lys Arg Val Lys Ser Glu Ala Ile | | | |
| | 210 | 215 | 220 |
| Ile Ala Arg Arg Glu Pro Lys Glu Glu Ala Glu Asp Val Ser Ser Tyr | | | |
| | 225 | 230 | 235 |
| Leu Cys Thr Glu Ser Asp Lys Ile Pro Met Ala Gln Arg Arg Arg Phe | | | |
| | 245 | 250 | 255 |
| Thr Arg Val Glu Met Ala Arg Val Leu Met Glu Arg Asn Gln Tyr Lys | | | |
| | 260 | 265 | 270 |
| Glu Arg Leu Met Glu Leu Gln Glu Ala Val Arg Trp Thr Glu Met Ile | | | |
| | 275 | 280 | 285 |
| Arg Ala Ser Arg Glu His Pro Ser Val Gln Glu Lys Lys Lys Ser Thr | | | |
| | 290 | 295 | 300 |
| Ile Trp Gln Phe Phe Ser Arg Leu Phe Ser Ser Ser Ser Ser Pro Pro | | | |
| | 305 | 310 | 315 |
| Pro Ala Lys Arg Pro Tyr Pro Ser Val Asn Ile His Tyr Lys Ser Pro | | | |
| | 325 | 330 | 335 |
| Thr Thr Ala Gly Phe Ser Gln Arg Arg Asn His Ala Met Cys Pro Ile | | | |
| | 340 | 345 | 350 |
| Ser Ala Gly Ser Arg Pro Leu Glu Phe Phe Pro Asp Asp Asp Cys Thr | | | |
| | 355 | 360 | 365 |
| Ser Ser Ala Arg Arg Glu Gln Lys Arg Glu Gln Tyr Arg Gln Val Arg | | | |
| | 370 | 375 | 380 |
| Glu His Val Arg Asn Asp Asp Gly Arg Leu Gln Ala Cys Gly Trp Ser | | | |
| | 385 | 390 | 395 |
| Leu Pro Ala Lys Tyr Lys Gln Leu Ser Pro Asn Gly Gly Gln Glu Asp | | | |
| | 405 | 410 | 415 |
| Thr Arg Met Lys Asn Val Pro Val Pro Val Tyr Cys Arg Pro Leu Val | | | |
| | 420 | 425 | 430 |
| Glu Lys Asp Pro Thr Met Lys Leu Trp Cys Ala Ala Gly Val Asn Leu | | | |

| | | |
|---|-----|-----|
| 435 | 440 | 445 |
| Ser Gly Trp Arg Pro Asn Glu Asp Asp Ala Gly Asn Gly Val Lys Pro | | |
| 450 | 455 | 460 |
| Ala Pro Gly Arg Asp Pro Leu Thr Cys Asp Arg Glu Gly Asp Gly Glu | | |
| 465 | 470 | 475 |
| Pro Lys Ser Ala His Ala Ser Pro Glu Lys Lys Lys Ala Lys Glu Leu | | |
| 485 | 490 | 495 |
| Pro Glu Met Asp Ala Thr Ser Ser Arg Val Trp Ile Leu Thr Ser Thr | | |
| 500 | 505 | 510 |
| Leu Thr Thr Ser Lys Val Val Ile Ile Asp Ala Asn Gln Pro Gly Thr | | |
| 515 | 520 | 525 |
| Val Val Asp Gln Phe Thr Val Cys Asn Ala His Val Leu Cys Ile Ser | | |
| 530 | 535 | 540 |
| Ser Ile Pro Ala Ala Ser Asp Ser Asp Tyr Pro Pro Gly Glu Met Phe | | |
| 545 | 550 | 555 |
| Leu Asp Ser Asp Val Asn Pro Glu Asp Pro Gly Ala Asp Gly Val Leu | | |
| 565 | 570 | 575 |
| Ala Gly Ile Thr Leu Val Gly Cys Ala Thr Arg Cys Asn Val Pro Arg | | |
| 580 | 585 | 590 |
| Ser Asn Cys Ser Ser Arg Gly Asp Thr Pro Val Leu Asp Lys Gly Gln | | |
| 595 | 600 | 605 |
| Gly Glu Val Ala Thr Ile Ala Asn Gly Lys Val Asn Pro Ser Gln Ser | | |
| 610 | 615 | 620 |
| Thr Glu Glu Ala Thr Glu Ala Thr Glu Val Pro Asp Pro Gly Pro Ser | | |
| 625 | 630 | 635 |
| Glu Pro Glu Thr Ala Thr Leu Arg Pro Gly Pro Leu Thr Glu His Val | | |
| 645 | 650 | 655 |
| Phe Thr Asp Pro Ala Pro Thr Pro Ser Ser Gly Pro Gln Pro Gly Ser | | |
| 660 | 665 | 670 |
| Glu Asn Gly Pro Glu Pro Asp Ser Ser Ser Thr Arg Pro Glu Pro Glu | | |
| 675 | 680 | 685 |
| Pro Ser Gly Asp Pro Thr Gly Ala Gly Ser Ser Ala Ala Pro Thr Met | | |
| 690 | 695 | 700 |
| Trp Leu Gly Ala Gln Asn Gly Trp Leu Tyr Val His Ser Ala Val Ala | | |
| 705 | 710 | 715 |
| Asn Trp Lys Lys Cys Leu His Ser Ile Lys Leu Lys Asp Ser Val Leu | | |
| 725 | 730 | 735 |
| Ser Leu Val His Val Lys Gly Arg Val Leu Val Ala Leu Ala Asp Gly | | |
| 740 | 745 | 750 |
| Thr Leu Ala Ile Phe His Arg Gly Glu Asp Gly Gln Trp Asp Leu Ser | | |
| 755 | 760 | 765 |
| Asn Tyr His Leu Met Asp Leu Gly His Pro His His Ser Ile Arg Cys | | |
| 770 | 775 | 780 |
| Met Ala Val Val Tyr Asp Arg Val Trp Cys Gly Tyr Lys Asn Lys Val | | |
| 785 | 790 | 795 |
| His Val Ile Gln Pro Lys Thr Met Gln Ile Glu Lys Ser Phe Asp Ala | | |
| 805 | 810 | 815 |
| His Pro Arg Arg Glu Ser Gln Val Arg Gln Leu Ala Trp Ile Gly Asp | | |
| 820 | 825 | 830 |
| Gly Val Trp Val Ser Ile Arg Leu Asp Ser Thr Leu Arg Leu Tyr His | | |
| 835 | 840 | 845 |
| Ala His Thr His Gln His Leu Gln Asp Val Asp Ile Glu Pro Tyr Val | | |
| 850 | 855 | 860 |
| Ser Lys Met Leu Gly Thr Gly Lys Leu Gly Phe Ser Phe Val Arg Ile | | |


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865              870              875              880
Thr Ala Leu Leu Val Ala Gly Ser Arg Leu Trp Val Gly Thr Gly Asn
              885              890              895
Gly Val Val Ile Ser Ile Pro Leu Thr Glu Thr Val Val Leu His Arg
              900              905              910
Gly Gln Leu Leu Gly Leu Arg Ala Asn Lys Thr Ser Pro Thr Ser Gly
              915              920              925
Glu Gly Ala Arg Pro Gly Gly Ile Ile His Val Tyr Gly Asp Asp Ser
              930              935              940
Ser Asp Arg Ala Ala Ser Ser Phe Ile Pro Tyr Cys Ser Met Ala Gln
945              950              955              960
Ala Gln Leu Cys Phe His Gly His Arg Asp Ala Val Lys Phe Phe Val
              965              970              975
Ser Val Pro Gly Asn Val Leu Ala Thr Leu Asn Gly Ser Val Leu Asp
              980              985              990
Ser Pro Ala Glu Gly Pro Gly Pro Ala Ala Pro Ala Ser Glu Val Glu
              995              1000              1005
Gly Gln Lys Leu Arg Asn Val Leu Val Leu Ser Gly Gly Glu Gly Tyr
              1010              1015              1020
Ile Asp Phe Arg Ile Gly Asp Gly Glu Asp Asp Glu Thr Glu Glu Gly
1025              1030              1035              1040
Ala Gly Asp Met Ser Gln Val Lys Pro Val Leu Ser Lys Ala Glu Arg
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<210> 4963

<211> 1575

<212> DNA

<213> Homo sapiens

<400> 4963

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120
aagtgccacc cggtcactt cctgaactca cgggccctgg gcgtcatgga caagagcact
180
gccatcccca aagccagctc ttctgagtct ctttcggcca aaacctgcag cttatttctg
240
cccaattacg ttcaggacaa gtatctgtta cagcttctaa gaaacgcaga tgacgtcagc
300
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360
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420
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480
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540
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600
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660

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 780
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 840
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 1080
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 1380
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<210> 4964

<211> 304

<212> PRT

<213> Homo sapiens

<400> 4964

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Glu | Asp | Phe | Tyr | Gly | Pro | Cys | Ala | Lys | Thr | Ser | Glu | Lys | Gly | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Tyr | Phe | Leu | Thr | Glu | Tyr | Ser | Thr | His | Gln | Leu | Phe | Ser | Gln | Leu | Thr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Leu | Gln | Gln | Glu | Leu | Phe | Gln | Lys | Cys | His | Pro | Val | His | Phe | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asn | Ser | Arg | Ala | Leu | Gly | Val | Met | Asp | Lys | Ser | Thr | Ala | Ile | Pro | Lys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ala | Ser | Ser | Ser | Glu | Ser | Leu | Ser | Ala | Lys | Thr | Cys | Ser | Leu | Phe | Leu |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Pro | Asn | Tyr | Val | Gln | Asp | Lys | Tyr | Leu | Leu | Gln | Leu | Leu | Arg | Asn | Ala |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Asp | Asp | Val | Ser | Thr | Trp | Val | Ala | Ala | Glu | Ile | Val | Thr | Ser | His | Thr |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Ser | Lys | Leu | Gln | Val | Asn | Leu | Leu | Ser | Lys | Phe | Xaa | Leu | Ile | Ala | Lys |

| | | |
|---|-----|-----|
| 115 | 120 | 125 |
| Ser Cys Tyr Glu Gln Arg Asn Phe Ala Thr Ala Met Gln Ile Leu Ser | | |
| 130 | 135 | 140 |
| Gly Leu Glu His Leu Ala Val Arg Gln Ser Pro Ala Trp Arg Ile Leu | | |
| 145 | 150 | 155 |
| Pro Ala Lys Ile Ala Glu Val Met Glu Glu Leu Lys Ala Val Glu Val | | |
| 165 | 170 | 175 |
| Phe Leu Lys Ser Asp Ser Leu Cys Leu Met Glu Gly Arg Arg Phe Arg | | |
| 180 | 185 | 190 |
| Ala Gln Pro Thr Leu Pro Ser Ala His Leu Leu Ala Met His Ile Gln | | |
| 195 | 200 | 205 |
| Gln Leu Glu Thr Gly Gly Phe Thr Met Thr Asn Gly Ala His Arg Trp | | |
| 210 | 215 | 220 |
| Ser Lys Leu Arg Asn Ile Ala Lys Val Val Ser Gln Val His Ala Phe | | |
| 225 | 230 | 235 |
| Gln Glu Asn Pro Tyr Thr Phe Ser Pro Asp Pro Lys Leu Gln Ser Tyr | | |
| 245 | 250 | 255 |
| Leu Lys Gln Arg Ile Ala Arg Phe Ser Gly Ala Asp Ile Ser Thr Leu | | |
| 260 | 265 | 270 |
| Ala Ala Asp Ser Arg Ala Asn Phe His Gln Val Ser Ser Glu Lys His | | |
| 275 | 280 | 285 |
| Ser Arg Lys Ile Gln Asp Lys Leu Arg Arg Met Lys Ala Thr Phe Gln | | |
| 290 | 295 | 300 |

<210> 4965

<211> 1474

<212> DNA

<213> Homo sapiens

<400> 4965

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120
ccccaagcag agagcacgct gctcagggac agagctgggc ttgtgaccat gtgtcgccct
180
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240
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600
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660
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720

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 840
 gccacatgga caggtagctc agggtagaggt cgggatcccc ggtgtgggca agctccttgg
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 960
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 1020
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 1080
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 1200
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 1260
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 1320
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 1380
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 1474

<210> 4966

<211> 212

<212> PRT

<213> Homo sapiens

<400> 4966

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Ala | Lys | Thr | Leu | Gly | Thr | Val | Thr | Pro | Arg | Lys | Pro | Val | Leu |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Ser | Val | Ser | Ala | Arg | Lys | Ile | Lys | Asp | Asn | Ala | Ala | Asp | Trp | His | Asn |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Leu | Ile | Leu | Lys | Trp | Glu | Thr | Leu | Asn | Asp | Ala | Gly | Phe | Thr | Thr | Ala |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Asn | Asn | Ile | Ala | Asn | Leu | Lys | Ile | Ser | Leu | Leu | Asn | Lys | Asp | Lys | Ile |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Leu | Asp | Ser | Ser | Ser | Pro | Ala | Ser | Lys | Glu | Asn | Glu | Glu | Lys | Val |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Cys | Leu | Glu | Tyr | Asn | Glu | Glu | Leu | Glu | Lys | Leu | Cys | Glu | Glu | Leu | Gln |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ala | Thr | Leu | Asp | Gly | Leu | Thr | Lys | Ile | Gln | Val | Lys | Met | Glu | Lys | Leu |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Ser | Ser | Thr | Thr | Lys | Gly | Ile | Cys | Glu | Leu | Glu | Asn | Tyr | His | Tyr | Gly |
| | 115 | | | | | 120 | | | | | 125 | | | | |
| Glu | Glu | Ser | Lys | Arg | Pro | Pro | Leu | Phe | His | Thr | Trp | Pro | Thr | Thr | His |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Phe | Tyr | Glu | Val | Ser | His | Lys | Leu | Leu | Glu | Met | Tyr | Arg | Lys | Glu | Leu |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
| Leu | Leu | Lys | Arg | Thr | Val | Ala | Lys | Glu | Leu | Ala | His | Thr | Gly | Asp | Pro |

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                165                170                175
Asp Leu Thr Leu Ser Tyr Leu Ser Met Trp Leu His Gln Pro Tyr Val
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Glu Ser Asp Ser Arg Leu His Leu Glu Ser Met Leu Leu Glu Thr Gly
                195                200                205
His Arg Ala Leu
                210

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<210> 4967
 <211> 550
 <212> DNA
 <213> Homo sapiens

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<400> 4967
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120
cgccttgacc tccaaaatag ctggngttac acgcgtgagc ccccatgccc agcttcccag
180
taagacattt attctgagga gttggctcac atgagtaagg aggctgagaa gttccacaat
240
ctgaacattc aggagaaagc tggatgatgta atttggtctg agtcccaatg cctgagaacc
300
agagaagccg atggtataaa tcccagtgc aaggcaggag aagacccatg tcccagctca
360
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420
tcaggctctc agaggcttgg atgatgtcca ttcacattgg gcagggctag gtacttttct
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540
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550

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<210> 4968
 <211> 51
 <212> PRT
 <213> Homo sapiens

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<400> 4968
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Tyr Ser Ser Leu Gln Pro Arg Thr Pro Gly Leu Lys Gln Ser Phe Arg
20          25          30
Leu Asp Leu Gln Asn Ser Trp Xaa Tyr Thr Arg Glu Pro Pro Cys Pro
35          40          45
Ala Ser Gln
50

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<210> 4969
 <211> 2911
 <212> DNA
 <213> Homo sapiens

<400> 4969
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120
gatgagaagg gtgcgggggc ccttcccttc ctaccagggg tctttggcta cgcagtgaat
180
cctcaagcag cccccctgc cccaccaaca ccacctcccc caactcttcc tccaccaatt
240
ccccctaagg gagaagggga aagggcaggg gttgagagaa cccagaaggg cgatgtgggg
300
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360
ctaccagctc cctggcctcc ctgccccttg ggagcccctt cacactcttg tgcagggact
420
tgggggcccc tggagctcag gggtcaggct gctttgtgtg agatgtagtt ttcccatctc
480
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| Pro Phe Leu | Pro Gly Val Phe Gly Tyr Ala Val Asn Pro Gln Ala Ala | | |
| | 50 | 55 | 60 |
| Pro Pro Ala | Pro Pro Thr Pro Pro Pro Pro Thr Leu Pro Pro Pro Ile | | |
| 65 | 70 | 75 | 80 |
| Pro Pro Lys | Gly Glu Gly Glu Arg Ala Gly Val Glu Arg Thr Gln Lys | | |
| | 85 | 90 | 95 |
| Gly Asp Val | Gly Xaa Asn Pro Gly Ala Gln Ser Pro Phe His Gln Met | | |
| | 100 | 105 | 110 |
| Pro Pro Ser | Leu Asn Pro Pro Pro Leu Pro Ala Pro Trp Pro Pro Cys | | |
| | 115 | 120 | 125 |
| Pro Leu Gly | Ala Pro Ser His Ser Cys Ala Gly Thr Trp Gly Pro Leu | | |
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| Glu | Thr | Thr | Thr | Ser | Thr | Ile | Ile | Thr | Thr | Thr | Val | Ile | Thr | Thr | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gln | Ala | Pro | Ala | Leu | Cys | Ser | Val | Ser | Phe | Ser | Asn | Pro | Glu | Gly | Tyr |
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| Ile | Asp | Ser | Ser | Asp | Tyr | Pro | Leu | Leu | Pro | Leu | Asn | Asn | Phe | Leu | Glu |
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| Cys | Thr | Tyr | Asn | Val | Thr | Val | Tyr | Thr | Gly | Tyr | Gly | Val | Glu | Leu | Gln |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Val | Lys | Ser | Val | Asn | Leu | Ser | Asp | Gly | Glu | Leu | Leu | Ser | Ile | Arg | Gly |
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| Val | Asp | Gly | Pro | Thr | Leu | Thr | Val | Leu | Ala | Asn | Gln | Thr | Leu | Leu | Val |

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| Glu | Gly | 130 | Gln | Val | Ile | Arg | Ser | Pro | Thr | Asn | Thr | Ile | Ser | Val | Tyr | Phe | Glu | Gly | 135 | Gln | Val | Ile | Arg | Ser | Pro | Thr | Asn | Thr | Ile | Ser | Val | Tyr | Phe |
| Arg | Thr | Phe | Gln | Asp | Asp | Gly | Leu | Gly | Thr | Phe | Gln | Leu | His | Tyr | Gln | Ala | Phe | Met | Leu | Ser | Cys | Asn | Phe | Pro | Arg | Arg | Pro | Asp | Ser | Gly | Asp | | |
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| | | | | | 165 | | | | 170 | | | | | | 175 | | | | | | | | | | | | | | | | | | |
| His | Leu | Gly | Tyr | Glu | Leu | Gln | Gly | Ala | Lys | Met | Leu | Thr | Cys | Ile | Asn | Ala | Ser | Lys | Pro | His | Trp | Ser | Ser | Gln | Glu | Pro | Ile | Cys | Ser | Ala | Pro | | |
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| Ser | Tyr | Pro | Glu | Asn | Thr | Asn | Gly | Ser | Gln | Phe | Cys | Ile | Trp | Thr | Ile | Glu | Ala | Pro | Glu | Gly | Gln | Lys | Leu | His | Leu | His | Phe | Glu | Arg | Leu | Leu | | |
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| Leu | His | Asp | Lys | Asp | Arg | Met | Thr | Val | His | Ser | Gly | Gln | Thr | Asn | Lys | Leu | His | Asp | Lys | Asp | Arg | Met | Thr | Val | His | Ser | Gly | Gln | Thr | Asn | Lys | | |
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<213> Homo sapiens

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4161

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| Pro Trp Thr Glu Ala Ala Glu His Tyr Ser Cys Val Phe Asp His Ile | | |
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| Pro Glu Arg Leu Ala His Gly Ser Pro Phe Arg Gly Met Ser Leu Leu | | |
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| Gln Trp Arg Ser Val Glu Thr Gly Ser Leu Asp Leu Glu Gln Glu Val | | |
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| Asp Pro Leu Asn Val Asp His Phe Ser Cys Thr Pro Leu Met Trp Ala | | |
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| Cys Ala Leu Gly His Leu Glu Ala Ala Val Leu Leu Phe Arg Trp Asn | | |
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| Leu Gln Arg Gln Glu Pro Ser Val Glu Pro Pro Phe Ala Leu Ser Pro | | |
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| Pro Asp Gly Ser Pro Pro Pro Ala Pro Leu Pro Ala Ser Glu Met Thr | | |
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<212> DNA

<213> Homo sapiens

<400> 4987

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 240
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<210> 4988

<211> 105

<212> PRT

<213> Homo sapiens

<400> 4988

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Ser | Ser | Cys | Asp | Ser | Glu | Lys | Lys | Ser | Leu | Trp | Leu | Phe | Ala | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Pro | Leu | Cys | Phe | Leu | Gly | Thr | Ala | Phe | Pro | Gln | Gly | Glu | Gln | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Leu | Glu | Ala | Lys | Gly | Leu | Ala | Thr | Gln | Gly | Ala | Ser | Leu | Pro | Leu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Pro | Thr | Val | Thr | Cys | Val | Ser | Ile | Lys | Ser | Trp | Lys | Met | Glu | Cys |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Pro | His | Gln | Gly | Asp | Gly | Val | Thr | Thr | Glu | Ala | Gly | Ser | Glu | Leu | Pro |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Gln | Leu | Leu | Gln | Ala | Pro | Trp | Pro | Arg | | | | | | | |
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<210> 4989

<211> 1723

<212> DNA

<213> Homo sapiens

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120
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360
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720

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 960
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 1560
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<210> 4990

<211> 54

<212> PRT

<213> Homo sapiens

<400> 4990

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| Thr | Ala | Pro | Thr | Thr | Pro | Cys | Gly | His | Ser | Gly | Thr | Pro | Cys | Ser | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Lys | Arg | Phe | Gln | Gln | Ala | Thr | Pro | Gly | Ser | Ala | Pro | Val | Ser | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Gln | Ala | Ser | Phe | Leu | Ala | Ser | Ser | Phe | Ser | Ser | Ser | Ala | Gly | Pro |
| | | | 35 | | | | 40 | | | | | | 45 | | |
| Arg | Thr | Ser | Ile | Ser | Gly | | | | | | | | | | |
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<210> 4991

<211> 828

<212> DNA

<213> Homo sapiens

<400> 4991

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 240
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 300
 aaggtgaagg acgacaacta caacttagcc atgcgctacg cacagctcag tgaggagaag
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 420
 ttgaataaga tggaggagga atgtaagctg gagagaaatc agtctctaaa actgaagaat
 480
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 540
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 gactcagaca aggccatcct ggacatcttg gaacacgacc gcaaggaggc cctggaggac
 660
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 720
 ctgcgagaca agtacctgga ggagaaggag gacctggagc tcaagtgtc gaccctggga
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<210> 4992

<211> 69

<212> PRT

<213> Homo sapiens

<400> 4992

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 Glu Leu Arg Asp Lys Tyr Leu Glu Glu Lys Glu Asp Leu Glu Leu Lys
 35 40 45
 Cys Ser Thr Leu Gly Lys Asp Cys Glu Met Tyr Lys His Arg Met Asn
 50 55 60
 Thr Val Met Leu Gln
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<210> 4993

<211> 837

<212> DNA

<213> Homo sapiens

<400> 4993

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 ccagtcagga gagagagact gagaaggcta tggatcgact agcccgaggga acacagagca
 180
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 360
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 aaccttgggt gtgctgtgcc ccacaaggag acatgatcta tgacccagc tggcaccatc
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 837

<210> 4994

<211> 133

<212> PRT

<213> Homo sapiens

<400> 4994

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Arg | Leu | Ala | Arg | Gly | Thr | Gln | Ser | Ile | Pro | Asn | Asp | Ser | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Arg | Gly | Glu | Gly | Thr | His | Ser | Glu | Glu | Glu | Gly | Phe | Ala | Met | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Glu | Asp | Ser | Asp | Gly | Glu | Leu | Asn | Thr | Trp | Glu | Leu | Ser | Glu | Gly |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Thr | Asn | Cys | Pro | Pro | Lys | Glu | Gln | Pro | Gly | Asp | Leu | Phe | Asn | Glu | Asp |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Trp | Asp | Ser | Glu | Leu | Lys | Ala | Asp | Gln | Gly | Asn | Pro | Tyr | Asp | Ala | Asp |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Asp | Ile | Gln | Glu | Ser | Ile | Ser | Gln | Glu | Leu | Lys | Pro | Trp | Val | Cys | Cys |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ala | Pro | Gln | Gly | Asp | Met | Ile | Tyr | Asp | Pro | Ser | Trp | His | His | Pro | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Leu | Ile | Pro | Tyr | Tyr | Ser | Lys | Met | Val | Phe | Glu | Thr | Gly | Gln | Phe |
| | | | 115 | | | | 120 | | | | | | 125 | | |
| Asp | Asp | Ala | Glu | Asp | | | | | | | | | | | |
| | | | 130 | | | | | | | | | | | | |

<210> 4995
 <211> 1595
 <212> DNA
 <213> Homo sapiens

<400> 4995
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 360
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 1440

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<210> 4996
 <211> 217
 <212> PRT
 <213> Homo sapiens

<400> 4996
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 35 40 45
 Val Met Asp Gly Val Ile Ser Asp His Glu Cys Gln Glu Leu Gln Arg
 50 55 60
 Leu Thr Asn Val Ala Ala Thr Ser Gly Asp Gly Tyr Arg Gly Gln Thr
 65 70 75 80
 Ser Pro His Thr Pro Asn Glu Lys Phe Tyr Gly Val Thr Val Phe Lys
 85 90 95
 Ala Leu Lys Leu Gly Gln Glu Gly Lys Val Pro Leu Gln Ser Ala His
 100 105 110
 Leu Tyr Tyr Asn Val Thr Glu Lys Val Arg Arg Ile Met Glu Ser Tyr
 115 120 125
 Phe Arg Leu Asp Thr Pro Leu Tyr Phe Ser Tyr Ser His Leu Val Cys
 130 135 140
 Arg Thr Ala Ile Glu Glu Val Gln Ala Glu Arg Lys Asp Asp Ser His
 145 150 155 160
 Pro Val His Val Asp Asn Cys Ile Leu Asn Ala Glu Thr Leu Val Cys
 165 170 175
 Val Lys Glu Pro Pro Ala Tyr Thr Phe Arg Asp Tyr Ser Ala Ile Leu
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<210> 4997
 <211> 1888
 <212> DNA
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<400> 4997
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 540
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<210> 4998

<211> 464

<212> PRT

<213> Homo sapiens

<400> 4998

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| Met | Ser | Ser | Arg | Thr | Val | Leu | Ala | Pro | Gly | Asn | Asp | Arg | Asn | Ser | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | His | Gly | Thr | Leu | Gly | Ser | Gly | Arg | Ser | Ser | Asp | Lys | Gly | Pro | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Trp | Ser | Ser | Arg | Ser | Leu | Gly | Ala | Arg | Cys | Arg | Asn | Ser | Ile | Ala | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Cys | Pro | Glu | Glu | Gln | Pro | His | Val | Gly | Asn | Tyr | Arg | Leu | Leu | Arg | Thr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ile | Gly | Lys | Gly | Asn | Phe | Ala | Lys | Val | Lys | Leu | Ala | Arg | His | Ile | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Thr | Gly | Arg | Glu | Val | Ala | Ile | Lys | Ile | Ile | Asp | Lys | Thr | Gln | Leu | Asn |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Pro | Ser | Ser | Leu | Gln | Lys | Leu | Phe | Arg | Glu | Val | Arg | Ile | Met | Lys | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Asn | His | Pro | Asn | Ile | Val | Lys | Leu | Phe | Glu | Val | Ile | Glu | Thr | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Lys | Thr | Leu | Tyr | Leu | Val | Met | Glu | Tyr | Ala | Ser | Ala | Gly | Glu | Pro | Pro |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Thr | Leu | Ser | Ala | Leu | Pro | Leu | Cys | His | Leu | Pro | Leu | Pro | Leu | His | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Thr | Leu | Thr | Pro | Leu | Gly | Leu | Cys | Pro | Ala | Gly | Glu | Val | Phe | Asp | Tyr |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Leu | Val | Ser | His | Gly | Arg | Met | Lys | Glu | Lys | Glu | Ala | Arg | Ala | Lys | Phe |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Arg | Gln | Ile | Val | Ser | Ala | Val | His | Tyr | Cys | His | Gln | Lys | Asn | Ile | Val |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| His | Arg | Asp | Leu | Lys | Ala | Glu | Asn | Leu | Leu | Leu | Asp | Ala | Glu | Ala | Asn |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ile | Lys | Ile | Ala | Asp | Phe | Gly | Phe | Ser | Asn | Glu | Phe | Thr | Leu | Gly | Ser |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Lys | Leu | Asp | Thr | Phe | Cys | Gly | Ser | Pro | Pro | Tyr | Ala | Ala | Pro | Glu | Leu |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Phe | Gln | Gly | Lys | Lys | Tyr | Asp | Gly | Pro | Glu | Val | Asp | Ile | Trp | Ser | Leu |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Gly | Val | Ile | Leu | Tyr | Thr | Leu | Val | Ser | Gly | Ser | Leu | Pro | Phe | Asp | Gly |
| | 275 | | | | | | 280 | | | | | | 285 | | |
| His | Asn | Leu | Lys | Glu | Leu | Arg | Glu | Arg | Val | Leu | Lys | Gly | Lys | Tyr | Arg |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Val | Pro | Phe | Tyr | Met | Ser | Thr | Asp | Cys | Glu | Ser | Ile | Leu | Arg | Arg | Phe |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Leu | Val | Leu | Asn | Pro | Ala | Lys | Arg | Cys | Thr | Leu | Glu | Gln | Ile | Met | Lys |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Asp | Lys | Trp | Ile | Asn | Ile | Gly | Tyr | Glu | Gly | Glu | Glu | Leu | Lys | Pro | Tyr |


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Thr Glu Pro Glu Glu Asp Phe Gly Asp Thr Lys Arg Ile Glu Val Met
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Gln Lys Tyr Asn Glu Val Thr Ala Thr Tyr Leu Leu Leu Gly Arg Lys
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<212> DNA

<213> Homo sapiens

<400> 4999

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<212> PRT

<213> Homo sapiens

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| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Val | Ser | Val | Leu | Ala | Ala | Val | Arg | Gly | Gly | Asp | Glu | Val | Arg | Arg | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
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Lys Ala Leu Gly Gly His Met Thr Thr Leu Ser Gly Glu Glu Ile Ser
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Tyr Thr Gly Ser Asp Gly Ile Glu Gly Gly Leu Leu Ala Ser Ile Arg
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<210> 5001

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<212> DNA

<213> Homo sapiens

<400> 5001

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<211> 335

<212> PRT

<213> Homo sapiens

<400> 5002

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| | | 20 | | | | | | 25 | | | | | 30 | | |
| Ile | Val | Leu | Ile | Val | Glu | Gly | Thr | Glu | Phe | Pro | Cys | His | Lys | Met | Val |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Leu | Ala | Thr | Cys | Ser | Ser | Tyr | Phe | Arg | Ala | Met | Phe | Met | Ser | Gly | Leu |
| | 50 | | | | 55 | | | | | | 60 | | | | |
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| Thr | Leu | Gln | Ile | Ile | Ile | Thr | Tyr | Ala | Tyr | Thr | Gly | Asn | Leu | Ala | Met |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Asn | Asp | Ser | Thr | Val | Glu | Gln | Leu | Tyr | Glu | Thr | Ala | Cys | Phe | Leu | Gln |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Val | Glu | Asp | Val | Leu | Gln | Arg | Cys | Arg | Glu | Tyr | Leu | Ile | Lys | Lys | Ile |

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| 130 | 135 | 140 |
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| 145 | 150 | 155 |
| Thr Ala Val Tyr His Gln Asp Ala Phe Met Gln | Leu Leu His Asp Leu | |
| 165 | 170 | 175 |
| Leu Ile Asp Ile Leu Ser Ser Asp Asn Leu Asn | Val Glu Lys Glu Glu | |
| 180 | 185 | 190 |
| Thr Val Arg Glu Ala Ala Met Leu Trp Leu Glu | Tyr Asn Thr Glu Ser | |
| 195 | 200 | 205 |
| Arg Ser Gln Tyr Leu Ser Ser Val Leu Ser Gln | Ile Arg Ile Asp Ala | |
| 210 | 215 | 220 |
| Leu Ser Glu Val Thr Gln Arg Ala Trp Phe Gln | Gly Leu Pro Pro Asn | |
| 225 | 230 | 235 |
| Asp Lys Ser Val Val Val Gln Gly Leu Tyr Lys | Ser Met Pro Lys Phe | |
| 245 | 250 | 255 |
| Phe Lys Pro Arg Leu Gly Met Thr Lys Glu Glu | Met Met Ile Phe Ile | |
| 260 | 265 | 270 |
| Glu Ala Ser Ser Glu Asn Pro Cys Ser Leu Tyr | Ser Ser Val Cys Tyr | |
| 275 | 280 | 285 |
| Ser Pro Gln Ala Glu Lys Val Tyr Lys Leu Cys | Ser Pro Pro Ala Asp | |
| 290 | 295 | 300 |
| Leu His Lys Val Gly Thr Val Val Thr Pro Asp | Asn Asp Ile Tyr Ile | |
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<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

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Glu Asp Ser Glu Glu Asp Glu Asp Thr Glu Tyr Phe Asp Ala Met Glu
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Asp Ser Thr Ser Phe Ile Thr Val Ile Thr Glu Ala Lys Glu Asp Ser
180     185     190
Arg Lys Ala Glu Gly Ser Thr Gly Thr Ser Ser Val Asp Trp Ser Ser
195     200     205
Ala Asp Asn Val Leu Asp Gly Ala Ser Leu Val Pro Lys Gly Ser Ser
210     215     220
Lys Val Lys Arg Arg Val Arg Ile Pro Asn Lys Pro Asn Tyr Ser Leu
225     230     235     240
Asn Leu Trp Ser Ile Met Lys Asn Cys Ile Gly Arg Glu Leu Ser Arg
245     250     255
Ile Pro Met Pro Val Asn Phe Asn Glu Pro Leu Ser Met Leu Gln Arg
260     265     270
Leu Thr Glu Asp Leu Glu Tyr His His Leu Leu Asp Lys Ala Val His
275     280     285
Cys Thr Ser Ser Val Glu Gln Met Cys Leu Val Ala Ala Phe Ser Val
290     295     300
Ser Ser Tyr Ser Thr Thr Val His Arg Ile Ala Lys Pro Phe Asn Pro
305     310     315     320
Met Leu Gly Glu Thr Phe Glu Leu Asp Arg Leu Asp Asp Met Gly Leu
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Arg Ser Leu Cys Glu Gln Val Ser His His Pro Pro Ser Ala Ala His
340     345     350
Tyr Val Phe Ser Lys His Gly Trp Ser Leu Trp Gln Glu Ile Thr Ile
355     360     365
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| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Ala | Leu | Glu | Glu | Gln | Leu | Leu | Lys | Tyr | Ser | Pro | Asp | Pro | Val | Val | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Gly | Ser | Gly | His | Val | Thr | Val | Phe | Gly | Leu | Ser | Asn | Lys | Phe | Glu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Ser | Glu | Phe | Pro | Ser | Ser | Leu | Thr | Gly | Lys | Val | Ala | Pro | Glu | Glu | Phe |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Lys | Ala | Ser | Ile | Asn | Arg | Val | Asn | Ser | Cys | Leu | Lys | Lys | Asn | Leu | Pro |
| 65 | | | | 70 | | | | | | 75 | | | | 80 | |
| Val | Asn | Val | Arg | Trp | Leu | Leu | Cys | Gly | Cys | Leu | Cys | Cys | Cys | Cys | Thr |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Leu | Gly | Cys | Ser | Met | Trp | Pro | Val | Ile | Cys | Leu | Ser | Lys | Arg | Thr | Arg |
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| Arg | Ser | Ile | Glu | Lys | Leu | Leu | Glu | Trp | Glu | Asn | Asn | Arg | Leu | Tyr | His |
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| Lys | Leu | Cys | Leu | His | Trp | Arg | Leu | Ser | Lys | Arg | Lys | Cys | Glu | Thr | Asn |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Asn | Met | Met | Glu | Tyr | Val | Ile | Leu | Ile | Glu | Phe | Leu | Pro | Lys | Thr | Pro |
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<212> PRT

<213> Homo sapiens

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| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Gly | Asn | Ser | Tyr | Ala | Ser | Thr | Pro | Glu | Leu | Arg | Arg | Thr | Arg | Leu | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Met | Ala | Lys | Ile | His | Ala | Arg | Asn | Gly | Asp | Leu | Ser | Glu | Ala | Ala |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Met | Cys | Tyr | Ile | His | Ile | Ala | Ala | Leu | Ile | Ala | Glu | Tyr | Leu | Lys | Arg |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Lys | Gly | Met | Phe | Ser | Met | Gly | Trp | Pro | Ala | Val | Leu | Ser | Ile | Thr | Pro |
| 65 | | | | 70 | | | | 75 | | | | | 80 | | |
| Asn | Ile | Lys | Glu | Glu | Gly | Ala | Met | Lys | Glu | Asp | Ser | Gly | Met | Gln | Asp |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Thr | Pro | Tyr | Asn | Glu | Asn | Ile | Leu | Val | Glu | Gln | Leu | Tyr | Met | Cys | Val |
| | | | 100 | | | | 105 | | | | | 110 | | | |
| Glu | Phe | Leu | Trp | Lys | Ser | Glu | Arg | Tyr | Glu | Xaa | Ser | Leu | Leu | Met | Ser |
| | 115 | | | | | 120 | | | | | 125 | | | | |
| Thr | Ser | Pro | Ser | Leu | Leu | Ser | Leu | Arg | Asn | Asn | Glu | Thr | Ser | Lys | Asn |
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| Ser | Asp | Leu | Tyr | Tyr | Asp | Ile | His | Arg | Ser | Tyr | Leu | Lys | Val | Ala | Glu |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
| Val | Val | Asn | Ser | Glu | Ala | Ala | Val | Trp | Ser | Leu | Leu | Ser | Cys | Gly | Ile |

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 385 390 395 400
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<213> Homo sapiens

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<213> Homo sapiens

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Tyr | Ala | Cys | Phe | Phe | Phe | Leu | Ser | Pro | Ser | Leu | Leu | Phe | Leu | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asn | Leu | Pro | Gly | Arg | Val | His | Gln | Phe | Phe | Ile | Ser | Pro | Leu | Phe | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Ser | Phe | Glu | Val | Ile | Leu | Ile | His | Phe | Leu | His | Leu | Gln | Pro | Pro |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Val | Leu | Leu | Asp | Leu | Ala | Pro | Asn | Leu | Leu | Leu | Pro | Phe | Gly | Thr | Glu |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Glu | Lys | Leu | Leu | Ser | Ser | Pro | Cys | Phe | Ala | Asp | Ile | Ser | Lys | Gly | Lys |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Glu | Ser | Thr | Gly | Pro | Phe | Ile | Ser | Cys | Pro | Arg | Pro | Ser | Gln | Gly | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
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<210> 5012

<211> 950

<212> PRT

<213> Homo sapiens

<400> 5012

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Asp Asn Leu Tyr Leu Asp Met Asn Gly Ile Ile His Pro Cys Thr His
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Pro Glu Asp Lys Pro Ala Pro Lys Asn Glu Asp Glu Met Met Val Ala
 65           70           75           80
Ile Phe Glu Tyr Ile Asp Arg Leu Phe Ser Ile Val Arg Pro Arg Arg
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Gln Gln Arg Ser Arg Arg Phe Arg Ala Ile Lys Glu Gly Met Glu Ala
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Phe Leu Pro Pro Glu Glu Ile Lys Glu Arg Phe Asp Ser Asn Cys Ile
145           150           155           160
Thr Pro Gly Thr Glu Phe Met Asp Asn Leu Ala Lys Cys Leu Arg Tyr
165           170           175
Tyr Ile Ala Asp Arg Leu Asn Asn Asp Pro Gly Trp Lys Asn Leu Thr
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Val Ile Leu Ser Asp Ala Ser Ala Pro Gly Glu Gly Glu His Lys Ile
195           200           205
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355           360           365
Asn Val Val His Lys Thr Gly Tyr Leu Thr Glu Ser Gly Tyr Val
370           375           380
Asn Leu Gln Arg Val Gln Met Ile Met Leu Ala Val Gly Glu Val Glu
385           390           395           400
Asp Ser Ile Phe Lys Lys Arg Lys Asp Asp Glu Asp Ser Phe Arg Arg
405           410           415
Arg Gln Lys Glu Lys Arg Lys Arg Met Lys Arg Asp Gln Pro Ala Phe

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4190

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 850 | | 855 | | 860 | | | | | | | | | | | |
| Pro | Gln | Asp | Ser | Trp | Arg | Gly | Pro | Pro | Pro | Leu | Phe | Gln | Gln | Gln | Arg |
| 865 | | | | | | | | | | 875 | | | | | 880 |
| Phe | Asp | Arg | Gly | Val | Gly | Ala | Glu | Pro | Leu | Leu | Pro | Trp | Asn | Arg | Met |
| | | | 885 | | | | | | 890 | | | | | 895 | |
| Leu | Gln | Thr | Gln | Asn | Ala | Ala | Phe | Gln | Pro | Asn | Gln | Tyr | Gln | Met | Leu |
| | | | 900 | | | | | 905 | | | | | 910 | | |
| Ala | Gly | Pro | Gly | Gly | Tyr | Pro | Pro | Arg | Arg | Asp | Asp | Arg | Gly | Gly | Arg |
| | | 915 | | | | | 920 | | | | | 925 | | | |
| Gln | Gly | Tyr | Pro | Arg | Glu | Gly | Arg | Lys | Tyr | Pro | Leu | Pro | Pro | Pro | Ser |
| | 930 | | | | | 935 | | | | | 940 | | | | |
| Gly | Arg | Tyr | Asn | Trp | Asn | | | | | | | | | | |
| 945 | | | | | 950 | | | | | | | | | | |

<210> 5013

<211> 2480

<212> DNA

<213> Homo sapiens

<400> 5013

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900
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1020

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2480

<210> 5014

<211> 675

<212> PRT

<213> Homo sapiens

<400> 5014

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Asp Pro Glu Cys Glu Ile Glu Arg Pro Glu Arg Leu Thr Ala Ala Leu
      35           40           45
Asp Arg Leu Arg Gln Arg Gly Leu Glu Gln Arg Cys Leu Arg Leu Ser
      50           55           60
Ala Arg Glu Ala Ser Glu Glu Glu Leu Gly Leu Val His Ser Pro Glu
      65           70           75           80
Tyr Val Ser Leu Val Arg Glu Thr Gln Val Leu Gly Lys Glu Glu Leu
      85           90           95
Gln Ala Leu Ser Gly Gln Phe Asp Ala Ile Tyr Phe His Pro Ser Thr
      100           105           110
Phe His Cys Ala Arg Leu Ala Ala Gly Ala Gly Leu Gln Leu Val Asp
      115           120           125
Ala Val Leu Thr Gly Ala Val Gln Asn Gly Leu Ala Leu Val Arg Pro
      130           135           140
Pro Gly His His Gly Gln Arg Ala Ala Ala Asn Gly Phe Cys Val Phe
      145           150           155           160
Asn Asn Val Ala Ile Ala Ala Ala His Ala Lys Gln Lys His Gly Leu
      165           170           175
His Arg Ile Leu Val Val Asp Trp Asp Val His His Gly Gln Gly Ile
      180           185           190
Gln Tyr Leu Phe Glu Asp Asp Pro Ser Val Leu Tyr Phe Ser Trp His
      195           200           205
Arg Tyr Glu His Gly Arg Phe Trp Pro Phe Leu Arg Glu Ser Asp Ala
      210           215           220
Asp Ala Val Gly Arg Gly Gln Gly Leu Gly Phe Thr Val Asn Leu Pro
      225           230           235           240
Trp Asn Gln Val Gly Met Gly Asn Ala Asp Tyr Val Ala Ala Phe Leu
      245           250           255
His Leu Leu Leu Pro Leu Ala Phe Glu Phe Asp Pro Glu Leu Val Leu
      260           265           270
Val Ser Ala Gly Phe Asp Ser Ala Ile Gly Asp Pro Glu Gly Gln Met
      275           280           285
Gln Ala Thr Pro Glu Cys Phe Ala His Leu Thr Gln Leu Leu Gln Val
      290           295           300
Leu Ala Gly Gly Arg Val Cys Ala Val Leu Glu Gly Gly Tyr His Leu
      305           310           315           320
Glu Ser Leu Ala Glu Ser Val Cys Met Thr Val Gln Thr Leu Leu Gly
      325           330           335
Asp Pro Ala Pro Pro Leu Ser Gly Pro Met Ala Pro Cys Gln Arg Cys
      340           345           350
Glu Gly Ser Ala Leu Glu Ser Ile Gln Ser Ala Arg Ala Ala Gln Ala
      355           360           365
Pro His Trp Lys Ser Leu Gln Gln Asp Val Thr Ala Val Pro Met
      370           375           380
Ser Pro Ser Ser His Ser Pro Glu Gly Arg Pro Pro Pro Leu Leu Pro
      385           390           395           400
Gly Gly Pro Val Cys Lys Ala Ala Ala Ser Ala Pro Ser Ser Leu Leu

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                405                410                415
Asp Gln Pro Cys Leu Cys Pro Ala Pro Ser Val Arg Thr Ala Val Ala
                420                425                430
Leu Thr Thr Pro Asp Ile Thr Leu Val Leu Pro Pro Asp Val Ile Gln
                435                440                445
Gln Glu Ala Ser Ala Leu Arg Glu Glu Thr Glu Ala Trp Ala Arg Pro
                450                455                460
His Glu Ser Leu Ala Arg Glu Glu Ala Leu Thr Ala Leu Gly Lys Leu
465                470                475                480
Leu Tyr Leu Leu Asp Gly Met Leu Asp Gly Gln Val Asn Ser Gly Ile
                485                490                495
Ala Ala Thr Pro Ala Ser Ala Ala Ala Thr Leu Asp Val Ala Val
                500                505                510
Arg Arg Gly Leu Ser His Gly Ala Gln Arg Leu Leu Cys Val Ala Leu
                515                520                525
Gly Gln Leu Asp Arg Pro Pro Asp Leu Ala His Asp Gly Arg Ser Leu
                530                535                540
Trp Leu Asn Ile Arg Gly Lys Glu Ala Ala Ala Leu Ser Met Phe His
545                550                555                560
Val Ser Thr Pro Leu Pro Val Met Thr Gly Gly Phe Leu Ser Cys Ile
                565                570                575
Leu Gly Leu Val Leu Pro Leu Ala Tyr Gly Phe Gln Pro Asp Leu Val
                580                585                590
Leu Val Ala Leu Gly Pro Gly His Gly Leu Gln Gly Pro His Ala Ala
                595                600                605
Leu Leu Ala Ala Met Leu Arg Gly Leu Ala Gly Gly Arg Val Leu Ala
                610                615                620
Leu Leu Glu Glu Val Ser Trp Ala Gly Trp Arg Cys Cys Gly Val Gly
625                630                635                640
Arg Gly Glu Gly Pro Val Thr Ala Ser Val Phe Ala Pro Gly Pro Glu
                645                650                655
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Gly Thr Ser
                675

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<210> 5015

<211> 1360

<212> DNA

<213> Homo sapiens

<400> 5015

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120
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180
agccgcagga agcagctcac cttccaccgg tttccgttca gccgcccgga gctgctgaag
240
gaatgggtgc tgaacatcgg ccggggcaac ttcaagccca agcagcacac ggtcatctgc
300
tccgagcact tccggccaga gtgcttcagc gcctttggaa accgcaagaa cctaaagcac
360

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aatgccgtgc ccacgggtgtt cgccttttcag gacccacac agcaggtgag ggagaacaca
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 gaccctgcc gtgagagagg aaatgccagc tcttctcaga aagaaaagg cctccctgag
 480
 gcgggggccc gagaggacag tcctgggaga aacatggaca ctgcacttga agagcttcag
 540
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 600
 gaggtgttg gccggccgac tggccctgca ggctgagaa ggacccccaa caagcagcca
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 720
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 780
 atgtccagcc gcctccgtgc ttgcaaaggg caccggggac tccaggccag acttgggcca
 840
 gagcagcaga gctgagcccc acaggctccg gacgcagagg tggcagtggc accaggggccg
 900
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 960
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 1020
 aatgccgtct gggggacgtt tagaggcgtg gcactaggag tgcacatctg tgagcatgac
 1080
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 1140
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 1200
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 1260
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 1360

<210> 5016

<211> 284

<212> PRT

<213> Homo sapiens

<400> 5016

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| Met | Ser | Ala | Pro | Trp | Arg | Arg | Ala | Arg | Pro | Val | Thr | Thr | Ser | Gln | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Arg | Pro | Ser | Pro | Gln | Val | Pro | Pro | Leu | Ser | Ala | Gly | Pro | Ala | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Ala | Ile | Phe | Val | Gly | Gly | Ser | Gln | Ala | Trp | Leu | Glu | Met | Pro | Lys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ser | Cys | Ala | Ala | Arg | Gln | Cys | Cys | Asn | Arg | Tyr | Ser | Ser | Arg | Arg | Lys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gln | Leu | Thr | Phe | His | Arg | Phe | Pro | Phe | Ser | Arg | Pro | Glu | Leu | Leu | Lys |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Glu | Trp | Val | Leu | Asn | Ile | Gly | Arg | Gly | Asn | Phe | Lys | Pro | Lys | Gln | His |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Thr | Val | Ile | Cys | Ser | Glu | His | Phe | Arg | Pro | Glu | Cys | Phe | Ser | Ala | Phe |


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<210> 5017
<211> 785
<212> DNA
<213> Homo sapiens
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4196

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 aaaaaa
 785

<210> 5018
 <211> 63
 <212> PRT
 <213> Homo sapiens

<400> 5018
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 Leu Pro Ala Leu Pro Ser Asp Ala Gly Val Gly Trp Gly Ala Glu Gly
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 Pro Pro Ser Ile Ala Ala Val Ser Gln Ser His Gly Arg Arg Ser
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<210> 5019
 <211> 2766
 <212> DNA
 <213> Homo sapiens

<400> 5019
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 120
 cgccgaatgc cagatggagg ttatcctcat ggtcctccag gccattagg ccttctggga
 180
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 240
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 480
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 540
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 2766

<210> 5020

<211> 433

<212> PRT

<213> Homo sapiens

<400> 5020

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 Glu Gln His His Trp Asp Asp Arg Arg Arg Met Pro Asp Gly Gly Tyr
 35 40 45
 Pro His Gly Pro Pro Gly Pro Leu Gly Leu Leu Gly Val Arg Pro Gly
 50 55 60
 Met Pro Pro Gln Pro Gln Gly Pro Ala Pro Leu Arg Arg Pro Asp Ser
 65 70 75 80
 Ser Asp Asp Arg Tyr Val Met Thr Lys His Ala Thr Ile Tyr Pro Thr
 85 90 95
 Glu Glu Glu Leu Gln Ala Val Gln Lys Ile Val Ser Ile Thr Glu Arg
 100 105 110
 Ala Leu Lys Leu Val Ser Asp Ser Leu Ser Glu His Glu Lys Asn Lys
 115 120 125
 Asn Lys Glu Gly Asp Asp Lys Lys Glu Gly Gly Lys Asp Arg Ala Leu
 130 135 140
 Lys Gly Val Leu Arg Val Gly Val Phe Ala Lys Gly Leu Leu Leu Arg
 145 150 155 160
 Gly Asp Arg Asn Val Asn Leu Val Leu Leu Cys Ser Glu Lys Pro Ser
 165 170 175
 Lys Thr Leu Leu Ser Arg Ile Ala Glu Asn Leu Pro Lys Gln Leu Ala
 180 185 190
 Phe Ile Ser Pro Glu Lys Tyr Asp Ile Lys Cys Ala Val Ser Glu Ala
 195 200 205
 Ala Ile Ile Leu Asn Ser Cys Val Glu Pro Lys Met Gln Val Thr Ile
 210 215 220
 Thr Leu Thr Ser Pro Ile Arg Glu Glu Asn Met Arg Glu Gly Asp
 225 230 235 240
 Val Thr Ser Gly Met Val Lys Asp Pro Pro Asp Val Leu Asp Arg Gln
 245 250 255
 Lys Cys Leu Asp Ala Leu Ala Ala Leu Arg His Ala Lys Trp Phe Gln
 260 265 270
 Ala Arg Ala Asn Gly Leu Gln Ser Cys Val Ile Ile Ile Arg Ile Leu


```

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      20             25             30
Asp Tyr Lys Asn Tyr Leu Ala Leu Ile Asn His Arg Pro His Val Lys
      35             40             45
Gly Asn Ser Ser Cys Tyr Gly Val Leu Pro Thr Glu Glu Pro Val Tyr
      50             55             60
Asn Trp Arg Thr Val Ile Asn Ser Ala Ala Asp Phe Tyr Phe Glu Gly
65             70             75             80
Asn Ile His Gln Ser Leu Gln Asn Ile Thr Glu Asn Gln Leu Val Gln
      85             90             95
Pro Thr Ile Leu Gln Gln Lys Gly Gly Lys Gly Arg Lys Lys Leu Arg
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Leu Phe Glu Tyr Leu His Glu Ser Leu Cys Asn Pro
      115            120

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<210> 5023

<211> 3482

<212> DNA

<213> Homo sapiens

<400> 5023

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120
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<213> Homo sapiens

<400> 5024

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| Gln | Ala | Arg | Lys | Arg | Phe | Leu | Asn | Lys | Ser | Ser | Glu | Asp | Asp | Ala | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Glu | Ser | Phe | Leu | Pro | Ser | Glu | Gly | Ala | Ser | Ser | Asp | Pro | Val | Thr |
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| Leu | Arg | Arg | Arg | Met | Leu | Ala | Ala | Ala | Arg | Asn | Gly | Gly | Phe | Arg | Ser |
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| Leu | Cys | Pro | Thr | Asp | Trp | Arg | Arg | Pro | Val | Pro | Ile | Leu | Pro | Leu | His |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Gly | Lys | Ala | Gly | Leu | Thr | Ala | Leu | Pro | Leu | Tyr | Lys | Ala | Cys | Gly | Leu |
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| | | |
|---|-----|-----|
| 115 | 120 | 125 |
| Asn Val Thr Phe Leu Phe Pro Leu Glu Thr Leu Gln Ile Leu Thr Val | | |
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| 145 | 150 | 155 |
| Ser Gly Gly Ser Glu Xaa Val Ala Cys Leu Gln Gln Ala Ala Ser Thr | | 160 |
| | 165 | 170 |
| Pro Ala Ser Cys Ile Arg Pro Thr Asn Ala Gly Val Leu Ser Thr Thr | | 175 |
| | 180 | 185 |
| Pro Ser Gly Lys Ser Val Gly Glu Ala His Ser Val Ser Pro Pro Pro | | 190 |
| | 195 | 200 |
| Arg Arg Gly Val Thr Ser Val Ile Lys Leu Leu Ser Leu Leu Trp Lys | | 205 |
| | 210 | 215 |
| His Val Asp Cys Ala Arg Ala Arg Pro Thr Gly Ser Cys Thr Pro Glu | | 220 |
| 225 | 230 | 235 |
| Gln Gln Gly Ile Leu Glu Lys Glu Leu Leu Val Arg Tyr Leu Glu Gln | | 240 |
| | 245 | 250 |
| Arg Arg Gly Lys Ser Arg Ala Ile Gly Cys Asp Glu Val Thr Pro Phe | | 255 |
| | 260 | 265 |
| Cys Pro Thr Thr Ser Gly Thr Asp Phe Pro Ser Leu Gln Ser Lys Ala | | 270 |
| | 275 | 280 |
| Gly Leu Ile Ser Val Asn Ser Gly Ala Pro Ala Ser His Glu Cys Ala | | 285 |
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<211> 2596

<212> DNA

<213> Homo sapiens

<400> 5025

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 <211> 136
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 35 40 45
 Val Leu Asp Pro Lys Glu Lys Gln Lys Tyr Thr Asp Met Ala Lys Glu
 50 55 60
 Tyr Lys Asp Ala Phe Met Lys Ala Asn Pro Gly Tyr Lys Trp Cys Pro
 65 70 75 80
 Thr Thr Asn Lys Pro Val Lys Ser Pro His Pro Leu Ser Ile His Glu
 85 90 95
 Arg Asn Phe Gly Pro Ser His Leu Thr Leu Gln Glu Thr Cys Gln Ala
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<210> 5027
 <211> 359
 <212> DNA
 <213> Homo sapiens

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<210> 5028

<211> 68

<212> PRT

<213> Homo sapiens

<400> 5028

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| Xaa | Gly | Gly | Gly | Ala | Gly | Ala | Leu | Gly | Ala | Arg | His | Gly | Gly | Lys | Gly |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Gln | Gly | Gln | Gln | Gln | Arg | Ala | Gln | Arg | Gly | His | Gly | Gly | Ser | Ala | Gly |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Lys | Thr | His | Lys | Phe | Ser | Ala | Gly | Thr | Tyr | Pro | Arg | Leu | Glu | Glu | Tyr |
| | 35 | | | | | | 40 | | | | 45 | | | | |
| Arg | Arg | Gly | Ile | Leu | Gly | Asp | Trp | Ser | Asn | Ala | Ile | Ser | Ala | Leu | Tyr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Cys | Arg | Cys | Ser | | | | | | | | | | | | |
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<211> 1440

<212> DNA

<213> Homo sapiens

<400> 5029

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<210> 5030

<211> 188

<212> PRT

<213> Homo sapiens

<400> 5030

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Val | Gly | Phe | Ser | Asn | Trp | Pro | Tyr | Leu | Glu | Val | Val | Leu | Phe | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Ile | Leu | Ile | Phe | Cys | Leu | Met | Thr | Leu | Ile | Gly | Asn | Leu | Phe | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Ile | Leu | Thr | Tyr | Leu | Asp | Ser | His | Leu | His | Thr | Pro | Leu | Tyr | Phe |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Phe | Leu | Ser | Asn | Leu | Ser | Phe | Leu | Asp | Leu | Cys | Tyr | Thr | Thr | Ser | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ile | Pro | Gln | Leu | Leu | Val | Ser | Leu | Trp | Gly | Val | Glu | Lys | Thr | Ile | Ser |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Tyr | Ala | Gly | Cys | Met | Val | Gln | Leu | Tyr | Phe | Phe | Leu | Thr | Leu | Gly | Thr |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Thr | Glu | Cys | Val | Leu | Leu | Val | Val | Met | Ser | Tyr | Asp | Arg | Tyr | Ala | Ala |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Val | Cys | Arg | Pro | Leu | His | Tyr | Thr | Val | Leu | Met | His | Ser | Arg | Phe | Cys |
| | | | 130 | | | | 135 | | | | 140 | | | | |
| His | Leu | Leu | Ala | Val | Ala | Ser | Trp | Val | Ser | Gly | Phe | Thr | Asn | Pro | Ala |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Leu | His | Ser | Ser | Phe | Thr | Phe | Trp | Val | Pro | Leu | Cys | Gly | His | Arg | Gln |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ile | Asp | His | Phe | Phe | Cys | Glu | Val | Pro | Ala | Leu | Leu | | | | |
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 360
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<210> 5032
 <211> 158
 <212> PRT
 <213> Homo sapiens

<400> 5032
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 35 40 45
 Met Gly Val Leu Ala Arg Glu Ala Pro His Leu Glu Lys Gln Pro Ala
 50 55 60
 Ala Gly Pro Gln Arg Val Leu Pro Gly Glu Arg Glu Glu Arg Pro Pro
 65 70 75 80
 Thr Leu Ser Ala Ser Phe Arg Thr Met Ala Glu Phe Met Asp Tyr Thr
 85 90 95
 Ser Ser Gln Cys Gly Lys Tyr Tyr Ser Ser Val Pro Glu Glu Gly Gly
 100 105 110
 Ala Thr His Val Tyr Arg Tyr His Arg Gly Glu Ser Lys Leu His Met
 115 120 125
 Cys Leu Asp Ile Gly Asn Gly Gln Arg Lys Asp Arg Lys Lys Thr Ser
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 Leu Gly Pro Gly Gly Ser Tyr Gln Ile Ser Glu His Ala Pro
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<210> 5033
 <211> 2888

<212> DNA

<213> Homo sapiens

<400> 5033

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540
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<213> Homo sapiens

<400> 5034

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 Leu Thr Ile Leu Arg Gly Pro Gln Ser Cys Arg Leu His Pro His Gly
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<211> 2002

<212> DNA

<213> Homo sapiens

<400> 5035

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<213> Homo sapiens

<400> 5036

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| Leu | Ala | Arg | Ala | Asp | Ser | Thr | Lys | Asn | Trp | Thr | Glu | Lys | Ile | Leu | Arg |
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| Phe | Val | Lys | Ser | Gln | Thr | Thr | Tyr | Tyr | Ala | Gln | Cys | Tyr | Arg | His Met |
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| Pro | Pro | Ala | Ser | Gly | Thr | Arg | Lys | Ala | Arg | Val | Leu | Tyr | Asp | Tyr Glu |
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| Ala | Ala | Asp | Ser | Ser | Glu | Leu | Ala | Leu | Leu | Ala | Asp | Glu | Leu | Ile Thr |
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| Val | Tyr | Ser | Leu | Pro | Gly | Met | Asp | Pro | Asp | Trp | Leu | Ile | Gly | Glu Arg |
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<213> Homo sapiens

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| Glu | Arg | Ala | Tyr | Phe | Phe | Val | Glu | Val | Gln | Asn | Ile | Pro | Thr | Cys | Leu |
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| Ile | Cys | Lys | Gln | Ser | Met | Ser | Val | Ser | Lys | Glu | Tyr | Asn | Leu | Arg | Arg |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| His | Tyr | Gln | Thr | Asn | His | Ser | Lys | His | Tyr | Asp | Gln | Tyr | Thr | Glu | Arg |
| | | | 50 | | | | 55 | | | | 60 | | | | |
| Met | Arg | Asp | Glu | Lys | Leu | His | Glu | Leu | Lys | Lys | Gly | Leu | Arg | Lys | Tyr |
| | | | | | 70 | | | | | 75 | | | | 80 | |
| Leu | Leu | Gly | Ser | Ser | Asp | Thr | Glu | Cys | Pro | Glu | Gln | Lys | Gln | Val | Phe |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ala | Asn | Pro | Ser | Pro | Thr | Gln | Lys | Ser | Pro | Val | Gln | Pro | Val | Glu | Asp |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Ala | Gly | Asn | Leu | Trp | Glu | Lys | Leu | Arg | Glu | Lys | Ile | Arg | Ser | Phe |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Val | Ala | Tyr | Ser | Ile | Ala | Ile | Asp | Glu | Ile | Thr | Asp | Ile | Asn | Asn | Thr |
| | | | | | | 135 | | | | | 140 | | | | |
| Thr | Gln | Leu | Ala | Ile | Phe | Ile | Arg | Gly | Val | Asp | Glu | Asn | Phe | Asp | Val |
| | | | | | 150 | | | | | 155 | | | | 160 | |
| Ser | Glu | Glu | Leu | Leu | Asp | Thr | Val | Pro | Met | Thr | Gly | Thr | Lys | Ser | Gly |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Asn | Glu | Ile | Phe | Ser | Arg | Val | Glu | Lys | Ser | Leu | Lys | Lys | Phe | Cys | Ile |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Asp | Trp | Ser | Lys | Leu | Val | Ser | Val | Ala | Ser | Thr | Gly | Thr | Pro | Ala | Met |
| | | 195 | | | | | 200 | | | | | | 205 | | |
| Val | Asp | Ala | Asn | Asn | Gly | Leu | Val | Thr | Lys | Leu | Lys | Ser | Arg | Val | Ala |
| | | | | | | 215 | | | | | 220 | | | | |
| Thr | Phe | Cys | Lys | Gly | Ala | Glu | Leu | Lys | Ser | Ile | Cys | Cys | Ile | Ile | His |
| | | | | | 230 | | | | | 235 | | | | 240 | |
| Pro | Glu | Ser | Leu | Cys | Ala | Gln | Lys | Leu | Lys | Met | Asp | His | Val | Met | Asp |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Val | Val | Val | Lys | Ser | Val | Asn | Trp | Ile | Cys | Ser | Arg | Gly | Leu | Asn | His |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Ser | Glu | Phe | Thr | Thr | Leu | Leu | Tyr | Glu | Leu | Asp | Ser | Gln | Tyr | Gly | Ser |
| | | | 275 | | | | 280 | | | | | 285 | | | |
| Leu | Leu | Tyr | Tyr | Thr | Glu | Ile | Lys | Trp | Leu | Ser | Arg | Gly | Leu | Val | Leu |

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| Lys Arg Phe Phe Glu Ser Leu Glu Glu Ile Asp Ser Phe Met Ser Ser | | | | |
| 305 | | 310 | | 315 |
| Arg Gly Lys Pro Leu Pro Gln Leu Ser Ser Ile Asp Trp Ile Arg Asp | | | | |
| | 325 | | 330 | 335 |
| Leu Ala Phe Leu Val Asp Met Thr Met His Leu Asn Ala Leu Asn Ile | | | | |
| | 340 | | 345 | 350 |
| Ser Leu Gln Gly His Ser Gln Ile Val Thr Gln Met Tyr Asp Leu Ile | | | | |
| | 355 | | 360 | 365 |
| Arg Ala Phe Leu Ala Lys Leu Cys Leu Trp Glu Thr His Leu Thr Arg | | | | |
| | 370 | | 375 | 380 |
| Asn Asn Leu Ala His Phe Pro Thr Leu Lys Leu Ala Ser Arg Asn Glu | | | | |
| 385 | | 390 | | 395 |
| Ser Asp Gly Leu Asn Tyr Ile Pro Lys Ile Ala Glu Leu Lys Thr Glu | | | | |
| | 405 | | 410 | 415 |
| Phe Gln Lys Arg Leu Ser Asp Phe Lys Leu Tyr Glu Ser Glu Leu Thr | | | | |
| | 420 | | 425 | 430 |
| Leu Phe Ser Ser Pro Phe Ser Thr Lys Ile Asp Ser Val His Glu Glu | | | | |
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| Leu Gln Met Glu Val Ile Asp Leu Gln Cys Asn Thr Val Leu Lys Thr | | | | |
| | 450 | | 455 | 460 |
| Lys Tyr Asp Lys Val Gly Ile Pro Glu Phe Tyr Lys Tyr Leu Trp Gly | | | | |
| 465 | | 470 | | 475 |
| Ser Tyr Pro Lys Tyr Lys His His Cys Ala Lys Ile Leu Ser Met Phe | | | | |
| | 485 | | 490 | 495 |
| Gly Ser Thr Tyr Ile Cys Glu Gln Leu Phe Ser Ile Met Lys Leu Ser | | | | |
| | 500 | | 505 | 510 |
| Lys Thr Lys Tyr Cys Ser Gln Leu Lys Asp Ser Gln Trp Asp Ser Val | | | | |
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<211> 3059

<212> DNA

<213> Homo sapiens

<400> 5039

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<212> PRT

<213> Homo sapiens

<400> 5040

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 Ile Arg Arg Asp Ile Phe Gly Gly Leu Val Leu Leu Lys Val Lys Ala
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 Lys Val Arg Gln Cys Leu Gln Glu Arg Arg Thr Val Pro Ile Leu Phe
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 Ala Ser Thr Val Arg Arg His Pro Asp Lys Thr Ala Leu Ile Phe Glu
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4221

| | | | | | | | | | | | | | | | |
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<211> 686

<212> PRT

<213> Homo sapiens

<400> 5042

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| 20 | 25 | 30 | |
| Asp Pro Glu Cys | Glu Ile Glu Arg Pro Glu Arg Leu Thr | Ala Ala Leu | |
| 35 | 40 | 45 | |
| Asp Arg Leu Arg | Gln Arg Gly Leu Glu Gln Arg Cys Leu Arg Leu Ser | | |
| 50 | 55 | 60 | |
| Ala Arg Glu Ala Ser | Glu Glu Glu Leu Gly Leu Val His Ser Pro Glu | | |
| 65 | 70 | 75 | 80 |
| Tyr Val Ser Leu Val | Arg Glu Thr Gln Val Leu Gly Lys Glu Glu Leu | | |
| 85 | 90 | 95 | |
| Gln Ala Leu Ser Gly | Gln Phe Asp Ala Ile Tyr Phe His Pro Ser Thr | | |
| 100 | 105 | 110 | |
| Phe His Cys Ala Arg | Leu Ala Ala Gly Ala Gly Leu Gln Leu Val Asp | | |
| 115 | 120 | 125 | |
| Ala Val Leu Thr Gly | Ala Val Gln Asn Gly Leu Ala Leu Val Arg Pro | | |
| 130 | 135 | 140 | |
| Pro Gly His His Gly | Gln Arg Ala Ala Ala Asn Gly Phe Cys Val Phe | | |
| 145 | 150 | 155 | 160 |
| Asn Asn Val Ala Ile | Ala Ala Ala His Ala Lys Gln Lys His Gly Leu | | |
| 165 | 170 | 175 | |
| His Arg Ile Leu Val | Val Asp Trp Asp Val His His Gly Gln Gly Ile | | |
| 180 | 185 | 190 | |
| Gln Tyr Leu Phe Glu | Asp Asp Pro Ser Val Leu Tyr Phe Ser Trp His | | |
| 195 | 200 | 205 | |
| Arg Tyr Glu His Gly | Arg Phe Trp Pro Phe Leu Arg Glu Ser Asp Ala | | |
| 210 | 215 | 220 | |
| Asp Ala Val Gly Arg | Gly Gln Gly Leu Gly Phe Thr Val Asn Leu Pro | | |
| 225 | 230 | 235 | 240 |
| Trp Asn Gln Val Gly | Met Gly Asn Ala Asp Tyr Val Ala Ala Phe Leu | | |
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| His Leu Leu Leu Pro | Leu Ala Phe Glu Phe Asp Pro Glu Leu Val Leu | | |
| 260 | 265 | 270 | |
| Val Ser Ala Gly Phe | Asp Ser Ala Ile Gly Asp Pro Glu Gly Gln Met | | |
| 275 | 280 | 285 | |
| Gln Ala Thr Pro Glu | Cys Phe Ala His Leu Thr Gln Leu Leu Gln Val | | |
| 290 | 295 | 300 | |
| Leu Ala Gly Gly Arg | Val Cys Ala Val Leu Glu Gly Gly Tyr His Leu | | |
| 305 | 310 | 315 | 320 |
| Glu Ser Leu Ala Glu | Ser Val Cys Met Thr Val Gln Thr Leu Leu Gly | | |
| 325 | 330 | 335 | |
| Asp Pro Ala Pro Pro | Leu Ser Gly Pro Met Ala Pro Cys Gln Arg Cys | | |
| 340 | 345 | 350 | |
| Glu Gly Ser Ala Leu | Glu Ser Ile Gln Ser Ala Arg Ala Ala Gln Ala | | |
| 355 | 360 | 365 | |
| Pro His Trp Lys Ser | Leu Gln Gln Asp Val Thr Ala Val Pro Met | | |
| 370 | 375 | 380 | |
| Ser Pro Ser Ser His | Ser Pro Glu Gly Arg Pro Pro Pro Leu Leu Pro | | |
| 385 | 390 | 395 | 400 |
| Gly Gly Pro Val Cys | Lys Ala Ala Ala Ser Ala Pro Ser Ser Leu Leu | | |
| 405 | 410 | 415 | |
| Asp Gln Pro Cys Leu | Cys Pro Ala Pro Ser Val Arg Thr Ala Val Ala | | |
| 420 | 425 | 430 | |
| Leu Thr Thr Pro Asp | Ile Thr Leu Val Leu Pro Pro Asp Val Ile Gln | | |

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 Leu Tyr Leu Leu Asp Gly Met Leu Asp Gly Gln Val Asn Ser Gly Ile
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<211> 1824

<212> DNA

<213> Homo sapiens

<400> 5043

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<211> 273

<212> PRT

<213> Homo sapiens

<400> 5044

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| Leu Val Thr Met Thr Ser Val Val Lys Thr Val Tyr Ser Leu Gln Pro | | | |
| 35 | 40 | 45 | |
| Pro Ser Ala Leu Ser Gly Gly Gln Pro Ala Asp Thr Gln Thr Arg Ala | | | |
| 50 | 55 | 60 | |
| Thr Ser Lys Ser Leu Leu Pro Val Arg Ser Lys Glu Val Asp Val Ser | | | |
| 65 | 70 | 75 | 80 |
| Lys Gln Leu His Ser Gly Gly Pro Glu Asn Asp Val Thr Lys Ile Thr | | | |
| 85 | 90 | 95 | |
| Lys Leu Arg Arg Glu Asn Gly Gln Met Lys Ala Thr Asp Thr Ala Thr | | | |
| 100 | 105 | 110 | |
| Arg Arg Asn Val Arg Lys Gly Tyr Lys Pro Leu Ser Lys Gln Lys Ser | | | |
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| Glu Glu Glu Leu Lys Asp Lys Asn Gln Leu Leu Glu Ala Val Asn Lys | | | |
| 130 | 135 | 140 | |
| Gln Leu His Gln Lys Leu Thr Glu Thr Gln Gly Glu Leu Lys Asp Leu | | | |
| 145 | 150 | 155 | 160 |
| Thr Gln Lys Val Glu Leu Leu Glu Lys Phe Arg Asp Asn Cys Leu Ala | | | |
| 165 | 170 | 175 | |
| Ile Leu Glu Ser Lys Gly Leu Asp Pro Ala Leu Gly Ser Glu Thr Leu | | | |
| 180 | 185 | 190 | |
| Ala Ser Arg Gln Glu Ser Thr Thr Asp His Met Asp Ser Met Leu Leu | | | |
| 195 | 200 | 205 | |
| Leu Glu Thr Leu Gln Glu Glu Leu Lys Leu Phe Asn Glu Thr Ala Lys | | | |
| 210 | 215 | 220 | |
| Lys Gln Met Glu Glu Leu Gln Ala Leu Lys Val Lys Leu Glu Met Lys | | | |
| 225 | 230 | 235 | 240 |
| Glu Glu Arg Val Arg Phe Leu Glu Gln Gln Thr Leu Cys Asn Asn Gln | | | |
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<211> 462

<212> DNA

<213> Homo sapiens

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 <211> 92
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 3840
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 3900
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 3960
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 4020
 aacaataaag gcgagatgaa aggttctgccc attacaggac cagtagcaaa ggagtgtgac
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<210> 5052

<211> 433

<212> PRT

<213> Homo sapiens

<400> 5052

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Lys | Leu | Ser | Leu | Ile | Gln | Glu | Tyr | Lys | Val | Ser | Ser | Cys | Glu | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Leu | Ile | Ser | Glu | Ile | Glu | Tyr | Arg | Leu | Glu | Arg | Ser | Pro | Val | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Ser | Gly | Asp | Glu | Phe | Thr | Tyr | Gly | Asp | Val | Pro | Val | Glu | Asn | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Met | Ala | Pro | Phe | Phe | Glu | Met | Lys | Leu | Lys | His | Tyr | Lys | Ile | Phe | Glu |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Gly | Met | Pro | Val | Thr | Phe | Thr | Cys | Arg | Val | Ala | Gly | Asn | Pro | Lys | Pro |

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65          70          75          80
Lys Ile Tyr Trp Phe Lys Asp Gly Lys Gln Ile Ser Pro Lys Ser Asp
      85          90
His Tyr Thr Ile Gln Arg Asp Leu Asp Gly Thr Cys Ser Leu His Thr
      100      105      110
Thr Ala Ser Thr Leu Asp Asp Asp Gly Asn Tyr Thr Ile Met Ala Ala
      115      120      125
Asn Pro Gln Gly Arg Ile Ser Cys Thr Gly Arg Leu Met Val Gln Ala
      130      135      140
Val Asn Gln Arg Gly Arg Ser Pro Arg Ser Pro Ser Gly His Pro His
145      150      155      160
Val Arg Arg Pro Arg Ser Arg Ser Arg Asp Ser Gly Asp Glu Asn Glu
      165      170      175
Pro Ile Gln Glu Arg Phe Phe Arg Pro His Phe Leu Gln Ala Pro Gly
      180      185      190
Asp Leu Thr Val Gln Glu Gly Lys Leu Cys Arg Met Asp Cys Lys Val
      195      200      205
Ser Gly Leu Pro Thr Pro Asp Leu Ser Trp Gln Leu Asp Gly Lys Pro
      210      215      220
Val Arg Pro Asp Ser Ala His Lys Met Leu Val Arg Glu Asn Gly Val
225      230      235      240
His Ser Leu Ile Ile Glu Pro Val Thr Ser Arg Asp Ala Gly Ile Tyr
      245      250      255
Thr Cys Ile Ala Thr Asn Arg Ala Gly Gln Asn Ser Phe Ser Leu Glu
      260      265      270
Leu Val Val Ala Ala Lys Glu Ala His Lys Pro Pro Val Phe Ile Glu
      275      280      285
Lys Leu Gln Asn Thr Gly Val Ala Asp Gly Tyr Pro Val Arg Leu Glu
      290      295      300
Cys Arg Val Leu Gly Val Pro Pro Pro Gln Ile Phe Trp Lys Lys Glu
305      310      315      320
Asn Glu Ser Leu Thr His Ser Thr Asp Arg Val Ser Met His Gln Asp
      325      330      335
Asn His Gly Tyr Ile Cys Leu Leu Ile Gln Gly Ala Thr Lys Glu Asp
      340      345      350
Ala Gly Trp Tyr Thr Val Ser Ala Lys Asn Glu Ala Gly Ile Val Ser
      355      360      365
Cys Thr Ala Arg Leu Asp Val Tyr Thr Gln Trp His Gln Gln Ser Gln
      370      375      380
Ser Thr Lys Pro Lys Lys Val Arg Pro Ser Ala Ser Arg Tyr Ala Ala
385      390      395      400
Leu Ser Asp Gln Gly Leu Asp Ile Lys Ala Ala Phe Gln Pro Glu Ala
      405      410      415
Asn Pro Ser His Leu Thr Leu Asn Thr Ala Leu Val Glu Ser Glu Asp
      420      425      430
Leu

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<210> 5053

<211> 781

<212> DNA

<213> Homo sapiens

<400> 5053

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 300
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 360
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 420
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 480
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 540
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 600
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 a
 781

<210> 5054

<211> 156

<212> PRT

<213> Homo sapiens

<400> 5054

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| Glu | Thr | Ser | Asn | Ala | Ser | Ala | Ala | Pro | Ala | Val | Glu | Arg | Gly | Asp | Ser |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Val | Gly | Pro | Cys | Pro | Lys | Met | Ser | Pro | Leu | Arg | Pro | Leu | Leu | Leu | Ala |
| | | 20 | | | | | | 25 | | | | 30 | | | |
| Leu | Ala | Leu | Ala | Ser | Val | Pro | Cys | Ala | Gln | Gly | Ala | Cys | Pro | Ala | Ser |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Ala | Asp | Leu | Lys | His | Ser | Asp | Gly | Thr | Arg | Thr | Cys | Ala | Lys | Leu | Tyr |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Asp | Lys | Ser | Asp | Pro | Tyr | Tyr | Glu | Asn | Cys | Cys | Gly | Gly | Ala | Glu | Leu |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Ser | Leu | Glu | Ser | Gly | Ala | Asp | Leu | Pro | Tyr | Leu | Pro | Ser | Asn | Trp | Ala |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Asn | Thr | Ala | Ser | Ser | Leu | Val | Val | Ala | Pro | Arg | Cys | Glu | Leu | Thr | Val |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Trp | Ser | Arg | Gln | Gly | Lys | Ala | Gly | Lys | Thr | His | Lys | Phe | Ser | Ala | Gly |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Thr | Tyr | Pro | Arg | Leu | Glu | Glu | Tyr | Arg | Arg | Gly | Ile | Leu | Gly | Asp | Trp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ser | Asn | Ala | Ile | Ser | Ala | Leu | Tyr | Cys | Arg | Cys | Ser | | | | |

145

150

155

<210> 5055

<211> 2520

<212> DNA

<213> Homo sapiens

<400> 5055

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120
ctactgctta aattctaaat aagtactttt gttttttctc tctaactctc tcccatcccc
180
tcctctcttt ctcttaaagg catggagagt agaaaactga tttctgctac agacattcag
240
tactctggca gtctgctgaa ctccctgaat gagcaacgtg gccatggact cttctgtgat
300
gttaccgtta ttgtggaaga ccgaaaattc cgggctcaca agaataattct ttcagcttct
360
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420
agagcagaga tctttgcaga aattctcaat tatactctata gttctaaaat tgttcgtggt
480
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540
gcagagcttg gtgtcccat gtcacagggt aaaagcatct caggtaacagc gcaggatggg
600
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660
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720
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780
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960
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1020
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1080
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1140
cagacaccaa acagtgtat tttaacagga aacaaggcca atgaagagga ggaggaggaa
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1260
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1320
aagatgcaga ttcctacact tcttcaagaa ccactttcca attccttaaa aatttcagat
1380

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 1500
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 1560
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 1620
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 1680
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 1740
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 1860
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 1920
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 1980
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 2160
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 2280
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 2340
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 2400
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<210> 5056

<211> 672

<212> PRT

<213> Homo sapiens

<400> 5056

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| Met | Glu | Ser | Arg | Lys | Leu | Ile | Ser | Ala | Thr | Asp | Ile | Gln | Tyr | Ser | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Leu | Leu | Asn | Ser | Leu | Asn | Glu | Gln | Arg | Gly | His | Gly | Leu | Phe | Cys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Val | Thr | Val | Ile | Val | Glu | Asp | Arg | Lys | Phe | Arg | Ala | His | Lys | Asn |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Leu | Ser | Ala | Ser | Ser | Thr | Tyr | Phe | His | Gln | Leu | Phe | Ser | Val | Ala |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Gly | Gln | Val | Val | Glu | Leu | Ser | Phe | Ile | Arg | Ala | Glu | Ile | Phe | Ala | Glu |

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65          70          75          80
Ile Leu Asn Tyr Ile Tyr Ser Ser Lys Ile Val Arg Val Arg Ser Asp
      85          90          95
Leu Leu Asp Glu Leu Ile Lys Ser Gly Gln Leu Leu Gly Val Lys Phe
      100          105          110
Ile Ala Glu Leu Gly Val Pro Leu Ser Gln Val Lys Ser Ile Ser Gly
      115          120          125
Thr Ala Gln Asp Gly Asn Thr Glu Pro Leu Pro Pro Asp Ser Gly Asp
      130          135          140
Lys Asn Leu Val Ile Gln Lys Ser Lys Asp Glu Ala Gln Asp Asn Gly
145          150          155          160
Ala Thr Ile Met Pro Ile Ile Thr Glu Ser Phe Ser Leu Ser Ala Glu
      165          170          175
Asp Tyr Glu Met Lys Lys Ile Ile Val Thr Asp Ser Asp Asp Asp Asp
      180          185          190
Asp Asp Val Ile Phe Cys Ser Glu Ile Leu Pro Thr Lys Glu Thr Leu
      195          200          205
Pro Ser Asn Asn Thr Val Ala Gln Val Gln Ser Asn Pro Gly Pro Val
      210          215          220
Ala Ile Ser Asp Val Ala Pro Ser Ala Ser Asn Asn Ser Pro Pro Leu
225          230          235          240
Thr Asn Ile Thr Pro Thr Gln Lys Leu Pro Thr Pro Val Asn Gln Ala
      245          250          255
Thr Leu Ser Gln Thr Gln Gly Ser Glu Lys Leu Leu Val Ser Ser Ala
      260          265          270
Pro Thr His Leu Thr Pro Asn Ile Ile Leu Leu Asn Gln Thr Pro Leu
      275          280          285
Ser Thr Pro Pro Asn Val Ser Ser Ser Leu Pro Asn His Met Pro Ser
      290          295          300
Ser Ile Asn Leu Leu Val Gln Asn Gln Gln Thr Pro Asn Ser Ala Ile
305          310          315          320
Leu Thr Gly Asn Lys Ala Asn Glu Glu Glu Glu Glu Ile Ile Asp
      325          330          335
Asp Asp Asp Asp Thr Ile Ser Ser Ser Pro Asp Ser Ala Val Ser Asn
      340          345          350
Thr Ser Leu Val Pro Gln Ala Asp Thr Ser Gln Asn Thr Ser Phe Asp
      355          360          365
Gly Ser Leu Ile Gln Lys Met Gln Ile Pro Thr Leu Leu Gln Glu Pro
      370          375          380
Leu Ser Asn Ser Leu Lys Ile Ser Asp Ile Ile Thr Arg Asn Thr Asn
385          390          395          400
Asp Pro Gly Val Gly Ser Lys His Leu Met Glu Gly Gln Lys Ile Ile
      405          410          415
Thr Leu Asp Thr Ala Thr Glu Ile Glu Gly Leu Ser Thr Gly Cys Lys
      420          425          430
Val Tyr Ala Asn Ile Gly Glu Asp Thr Tyr Asp Ile Val Ile Pro Val
      435          440          445
Lys Asp Asp Pro Asp Glu Gly Glu Ala Arg Leu Glu Asn Glu Ile Pro
      450          455          460
Lys Thr Ser Gly Ser Glu Met Ala Asn Lys Arg Met Lys Val Lys His
465          470          475          480
Asp Asp His Tyr Glu Leu Ile Val Asp Gly Arg Val Tyr Tyr Ile Cys
      485          490          495
Ile Val Cys Lys Arg Ser Tyr Val Cys Leu Thr Ser Leu Arg Arg His

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<210> 5058

<211> 122
 <212> PRT
 <213> Homo sapiens

<400> 5058
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 Ser Cys Pro Lys Val Asn Ser Val Tyr Val Leu Val Arg Gln Lys Ala
 35 40 45
 Gly Gln Thr Pro Gln Glu Arg Val Glu Glu Val Leu Ser Gly Lys Leu
 50 55 60
 Phe Asp Arg Leu Arg Asp Glu Asn Pro Asp Phe Arg Glu Lys Ile Ile
 65 70 75 80
 Ala Ile Asn Ser Glu Leu Thr Gln Pro Lys Leu Ala Leu Ser Glu Glu
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 Asp Lys Glu Val Ile Ile Asp Ser Thr Asn Ile Ile Phe His Cys Ala
 100 105 110
 Ala Thr Val Arg Phe Asn Glu Asn Leu Arg
 115 120

<210> 5059
 <211> 480
 <212> DNA
 <213> Homo sapiens

<400> 5059
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 120
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 180
 aaggaccag gctctcagca ggtcttccaa gcagtgtggt agaaaggcag gcaggggtg
 240
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 360
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 480

<210> 5060
 <211> 114
 <212> PRT
 <213> Homo sapiens

<400> 5060
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[illegible]

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<210> 5061
<211> 2462
<212> DNA
<213> Homo sapiens
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120
acagtctaga agcatgccaa gacagagcat tttctgcaga ccaaagagtc ccgtcaaagt
180
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240
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300
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360
gtttaatgtc ctttctccag tttctctgct gaggaggaaa gaaggaaaac ctggaggaag
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540
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720
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840
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960
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1020

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1980
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2340
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<210> 5062

<211> 136

<212> PRT

<213> Homo sapiens

<400> 5062

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          20           25           30
Val Arg Arg Ser Pro Ser Ser Arg Phe Ser Phe Phe Pro Pro Gln Gln
          35           40           45
Arg Asn Trp Arg Lys Asp Ile Lys Leu Ser Ala Val Asp Leu Ser Ala
          50           55           60
Glu Ile Phe Pro Glu Ser Met Val Val Leu Asn Tyr Leu His Val Ser
65           70           75           80
Ser Ile Phe Asn Ser Gly Val Gly Leu Phe Leu Ile Ser Ser Gln Lys
          85           90           95
Cys Ser Ala Leu Gly Glu Gly Thr Ser Pro Leu Ala Cys His Phe Pro
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          115          120          125
Leu Ser Trp His Ala Ser Arg Leu
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<210> 5063

<211> 561

<212> DNA

<213> Homo sapiens

<400> 5063

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120
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420
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480
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<210> 5064

<211> 110

<212> PRT

<213> Homo sapiens

<400> 5064

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Pro Pro Ser Tyr Val Pro Asp Thr Val Asp Leu Thr Asp Asp Ala Leu
      20           25           30
Ala Arg Lys Tyr Trp Leu Thr Cys Phe Glu Glu Ala Leu Asp Gly Val
      35           40           45
Val Lys Arg Ala Val Ala Ser Gln Pro Asp Ser Val Asp Ala Ala Glu
      50           55           60
Arg Ala Glu Lys Phe Arg Gln Lys Tyr Trp Asn Lys Leu Gln Thr Leu
65           70           75           80
Arg Gln Gln Pro Phe Ala Tyr Gly Thr Leu Thr Val Arg Ser Leu Leu
      85           90           95
Asp Thr Arg Glu His Cys Leu Asn Glu Phe Asn Phe Pro Asp
      100           105           110

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<210> 5065

<211> 370

<212> DNA

<213> Homo sapiens

<400> 5065

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120
gagaaaaaca agatggaacc ccggaacctg gccctgggtct ttgggcccgc actggtgagg
180
acgtctgagg acaacatgac agacatggtg acccacatgc ctgaccgcta caagatcgtg
240
gagacactga tccagcactc agactggttc ttcagtgcgc aagaggacaa gggagagaga
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360
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<210> 5066

<211> 123

<212> PRT

<213> Homo sapiens

<400> 5066

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Ile Glu Asp Ala Arg Glu Arg Met Arg Thr Leu Arg Lys Leu Ile Arg
 1           5           10           15
Asp Leu Pro Gly His Tyr Tyr Glu Thr Leu Lys Phe Leu Val Gly His
      20           25           30
Leu Lys Thr Ile Ala Asp His Ser Glu Lys Asn Lys Met Glu Pro Arg
      35           40           45
Asn Leu Ala Leu Val Phe Gly Pro Thr Leu Val Arg Thr Ser Glu Asp
      50           55           60
Asn Met Thr Asp Met Val Thr His Met Pro Asp Arg Tyr Lys Ile Val
65           70           75           80
Glu Thr Leu Ile Gln His Ser Asp Trp Phe Phe Ser Asp Glu Glu Asp

```